August
1930

AUG 7 1930

Clinical Medicine and Surgery

Volume 37 Number 8

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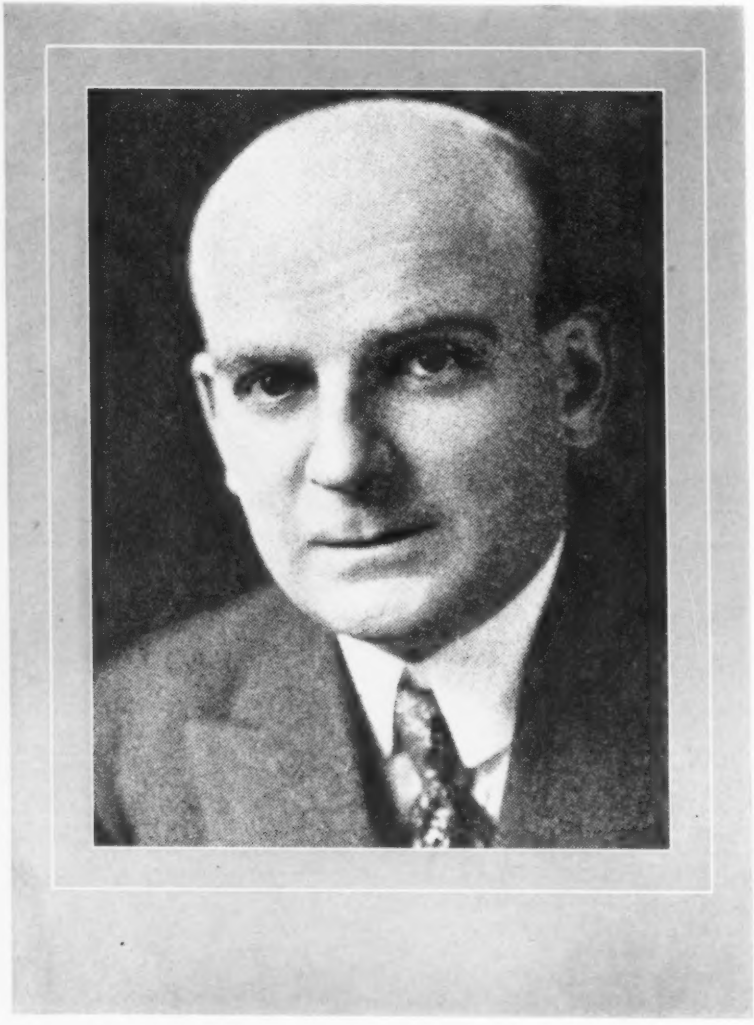


EDWARD STARR JUDD, M.D., F.A.C.S.

PRESIDENT-ELECT, AM. MED. ASSN.

CLINICAL MEDICINE AND SURGERY

VOLUME 37 AUGUST, 1930 NUMBER 8

Dr. E. Starr Judd

IN A GREAT and famous institution it is not difficult for a quiet man to become lost, as an individual, unless he possesses exceptional attainments; but Dr. Judd has endured this test and his outstanding position in his specialty has been recognized by his selection as president-elect of the American Medical Association, at its recent meeting in Detroit.

Edward Starr Judd is, in a very complete sense, a product of Rochester, Minnesota, having been born, educated and married in that city and having lived his entire professional life there, up to now.

The first great event in his career took place on July 11, 1878; the second (his graduation in Medicine, from the University of Minnesota) in 1902; the third (his association with the Mayo Clinic) in 1903; the fourth (his marriage to Helen Berkman) in 1908; and now a fifth has been added, in his elevation to the highest position in the gift of Organized Medicine.

Dr. Judd served his internship in St. Mary's Hospital, Rochester, and then became first assistant to Dr. Charles Mayo for a year, after which he was made head of one of the divisions of surgery in the Mayo Clinic. Since 1918 he has been professor of surgery in the Mayo Foundation, Graduate School, University of Minnesota. He is a fellow of the A.M.A. and of the American College of Surgeons and a member of the American, Southern, Interurban and Western Surgical Associations; the Minnesota Pathological Society and Academy of Medicine; the Society of Clinical Surgery; and ex-president of the Minnesota State Medical Society, in addition to various other affiliations.

During the War, Dr. Judd was commissioned a Major in the Medical Corps and was director of the school of instruction for officers and enlisted men at Rochester. He now holds a Lieut. Colonel's commission in the Reserve Corps and is assigned, as surgical consultant, to Hospital Center Headquarters 18.

A recent bibliography of Dr. Judd's contributions to the current literature of his profession shows 150 titles.

In person, Dr. Judd is of moderate stature and stocky build and his demeanor is characterized by that modesty and lack of ostentation which are so frequently the attributes of eminent men. Being now in the very prime of life, and presenting an appearance of robust health, a long and distinguished career seems to be before him.

Deep Stuff

NOBODY ever heard of a man winning swimming championships who had done all his training in knee-deep water. In like manner, it is, to say the least, so rare as to be practically a miracle if a man makes any pronounced splash in the intellectual world, whose mental swimming pool has been no deeper than "Gentlemen Prefer Blondes."

Those who want to shine in feats of physical prowess—foot-ball, tennis, marathon races, boxing and such—expect to do a lot of hard, grueling physical labor and to discipline their bodies rigorously. They know that, the harder the stunts they set themselves to do, the stronger and more supple and responsive will their bodies become.

What kind of cock-eyed reasoning must the man indulge in, who expects to have an agile and powerful mind, after giving it no more vigorous setting-up exercises than those provided by the daily paper, an occasional wood-pulp story magazine or now and then a current novel with puffy blurbs all over the jacket?

Those who aspire to have the sort of minds that win races and run up respectable scores in the game of life, will have to put those organs in training and give them a good, stiff work-out *every day*, the same as the physical racers and players train their bodies.

The candidate for a rating as an intellectual athlete must first rigidly censor his diet and habits. He must eliminate the pastry and ice-cream cones of murder and divorce trials, *Smutty Confessions* and *Lascivious Lyrics* from his mental menu, graduate from the infant-food of other men's predigested opinions and cease to indulge in jags of piffling or scandalous gossip and the smothering fumes of livery-stable anecdotes.

But the training table is not the only place where the star first-baseman must take himself in hand. He must have several hours of work in the field, daily. So the fellow who wants to be able to catch a subtle allusion unerringly and throw a snappy *bon mot* over to third, must keep his catching paw and his throwing arm in shape by plenty of exercise.

This does not mean that a man must surrender his newspaper and turn up a haughty nose at all stories. The active business or professional man (or woman) needs to know what is going on in the world and to keep up with his work by reading the better-class dailies, technical journals and an occasional significant novel; but he can read his paper with discrimination, and must remember that a steady diet of "shop" reading will thicken his mental wind and make his brain fat around the middle.

The only exercise which strengthens the mind is *thought;* and the only adequate pabulum for the intellectual organs is *knowledge*. Learn something new *every day*—no matter what, so it is something worth while and *think about it, use* it until it becomes a factor in life. The man who gains a new bit of real knowledge, *every day,* will be surprised to find, at the end of a year, how much he knows.

Every one who expects to have a mind that is worthy of the name must spend at least a little time, *regularly,* in studying something that is "over his head," so that he will have to swim hard to keep his nose above water. In this, one may profitably follow his own inclinations. History, biography, general science, philosophy, a foreign language—all, and various other lines, will, if seriously pursued, toughen and enlarge the fiber of the thinking apparatus. The difficult thing, for the mental side-line sitter, is to *start* such a course of study. Once on the way, persistence, resolution and the force of habit will accomplish wonders. Read every paragraph or go over every lesson again and again, if necessary, until you *know* what the author is getting at, before you go on to the next. Such work will cause "student's cramp" in the brain, at first, but, when one be-

comes accustomed to it, this activity becomes more and more exhilarating every day.

We plan to present, now and then, an article for mental gymnastics in CLINICAL MEDICINE AND SURGERY. There is such an article in this issue—the one by Dr. Illievitz. Do not pass it up because it looks "highbrow." Dig at it. Lay hold of one of his fascinating speculations and make your mind follow it up until a glimpse of some big, fundamental truth appears. The first hundred thinks are the hardest!

Watch for these articles, from time to time (whenever we can get hold of one); and meantime put the mind on a *real* course of training, so that you will look forward to these experiences, as a strong swimmer eagerly anticipates a five-mile tussle with the water.

Progress is not assured through the marvellous inventions and discoveries of our wonderful century. Human progress consists in an increased ability to receive and transmit truth, beauty and goodness.—Bishop Chas. P. Anderson.

A MILITARY VACATION

EVERYBODY who is doing any real work at all—especially doctors—needs to take a vacation every year. This does not mean that everybody—or anybody who is not ill—needs to loaf, for the only difference between a loafer and a dead man is that the former takes up more room, but that all real workers, medical men in particular, need to cut loose for a while, regularly, from the pressing problems which engross them and do something quite different.

A feeling of keen exhilaration always accompanies the performance of a job which is intrinsically worth doing, and there is no reason why one's vacation activities should not fall into this class.

Few stop to realize that our ability to pursue our tasks and our pleasures in security depends largely upon the integrity and efficiency of our services of national defense, but such is the case.

In a national emergency, the birth of the army which must come into being is attended by the Medical Corps (physical and mental examinations for muster-in); and, when the danger is past, it is the medical officers who must watch at the death bed of the great organization which has served its purpose (examinations for demobilization).

Thus a heavy responsibility rests upon the physicians of the United States, to prepare themselves, in time of peace, to perform effectively those vital functions which would be theirs in time of war.

The way to do this is to apply for a a commission in the Medical Reserve Corps of the Army, study the material which can be procured, and *go to the training camps as often as possible.*

These training camps offer the most satisfying type of useful vacation activity, at no expense (and frequently at a profit) to the vacationer. The life in the camp, with its martial activities and its atmosphere of discipline, is a stimulating contrast to the way most of us spend our days and offers complete release from the problems of the hospital and the bedside, in solving the hypothetic problems of possible warfare. And the solving of problems is, as has been proved by the vogue of all sorts of puzzles, one of the completest forms of relaxation and release from the strains and stresses of one's vocation.

Moreover, the personal contacts at these camps, under conditions where a man's real nature becomes manifest, result in the formation of many strong and beautiful friendships and in fostering that spirit of comradeship and cooperation which medical men so generally lack.

What better avocation can there be, for an active man, than to take up the study and practice of another dignified profession (the military profession) than that by which he earns his daily bread?

It is too late for this type of vacation this year, as the Medical Department camps are over; but it is not too early

to be going after that reserve commission (and the grade or rank makes little difference and *cannot* be based on a man's skill as a surgeon, or rhinologist or obstetrician, but upon his *military* qualifications) and making arrangements for a trip to camp next summer, which will give rest by change of effort, an inspiring life in the open and the heart-warming sense of having done one's duty as a citizen, in contributing to the indispensable preparations for national defense.

The greatest enemy of progress is not opposition, but inertia.—Robt. Quillen.

Sex Fancies as "Smut"

IN AN article which appeared recently in one of the popular magazines, Harry E. Fosdick referred, rather superficially one feels, to the sex fancies of adolescents and older persons as "smut," and thus furnished an interesting commentary upon, either the character of his own education in connection with one of the most basic urges of human beings, or upon his estimate of the intellectual status of the people whom he expected to read the article.

This view of the matter is, however, disastrously prevalent, even in this day of boasted emancipation in thought, word and deed. When we hear a man referred to as "immoral" or "impure" or a "sensualist," the speaker almost invariably means that his sexual activities are of a character not sanctioned by the current opinion of most of our communities. The slanderous gossip; the ill-natured "grouch" and fault finder; the niggardly and jealous husband are not referred to as "immoral," although they probably cause more domestic unhappiness than that produced by those who occasionally stray along the bypaths of sex.

Is there anything any more intrinsically "impure" about the activities of sex than there is about eating, digestion, respiration or any of our other physiologic functions? Obviously not! The "impurity" is in the mind of the prurient thinker. The man whose dreams and fancies are entirely absorbed in the pleasures of the table is, to the thoughtful and open-minded person, just as unlovely an object as is he whose musings are similarly restricted to the joys of the bedchamber.

A "sensualist" is a man whose chief object in life is the gratification of the senses, of which there are *five*: Sight, hearing, taste and smell, as well as the highly specialized modification of the sense of touch which we know as the genital sensation.

So long as men whose opinion is valued by many people, and who write freely (if not always judiciously) in the public prints, see—or pretend to see—the sex life as something "smutty," our chances of coming to a sound and civilized appreciation of the part which the great reproductive urge plays in our physical and psychic life are meager, indeed.

It is time for physicians who have given this matter enough study and thought so that they have formed an intelligent opinion upon it, to speak out in no uncertain terms, in order that people may learn the truth, shake off the hoodwink of salacious and keyhole-peeping prudery and face the issues involved with a clear eye and an unclouded mind. Only thus can we find a prophylactic for some of the "repressed complexes" which are wrecking so many otherwise useful lives and train the younger ones (in whom lies our only hope) to see the glory and the beauty of the highest and most perfect form of union which men and women, as now constituted, can know.

Puritans tolerate spectacles and actions more willingly than words. They like to wear the fig leaf over the mouth.—Aldous Huxley.

Physical Therapy and Radiology

FIFTEEN or twenty years ago, physical measures in the treatment of disease had scarcely entered the suburban areas of recognized medical practice and were largely in the hands of charlatans and ill-

trained lay enthusiasts; the x-rays were only beginning to be thought of in connection with treatment, and even their possibilities in diagnosis were but dimly visioned; and radium was a fascinating, but practically unknown innovation.

Much water has flowed under the bridges in the last decade or two, and physical therapy and radiology are as firmly established in Medicine as are those methods which were considered more orthodox prior to the World War.

We have appreciated the importance of these lines of work and thought and, for several years, have been presenting to our readers more or less regularly, articles dealing with their theoretic and practical aspects.

But now the time has come when we feel that they should be more definitely featured, and therefore we are announcing a new department of *Physical Therapy and Radiology*, which will be inaugurated in the September issue and will contain leading articles, clinical notes, editorial comments, abstracts and other material in these widely applicable, closely related and relatively new fields of medical endeavor.

To assist in this undertaking, we have secured the editorial cooperation of men of established reputation in this work, whose names will be announced next month, when they will be introduced to our readers, and already have on hand a goodly supply of really fine material. The new department will be worth watching for!

We hope and believe that this effort of ours will meet a hearty response from our readers and we shall look forward to hearing your opinions and receiving your cooperation in making this one of the most practically useful features of our journal.

It is human intelligence that advances science; material equipment is merely the apparatus through which understanding can express itself.—Zinsser.

It is the customary fate of new truths to begin as heresies and end as superstitions.—Thomas Henry Huxley.

Chicago the Medical Center

A GENERATION or two ago, no physician really felt that he was fully and elaborately educated in his profession unless he had studied in the European schools and hospitals, though he could do fairly well by going to Baltimore or New York for postgraduate work.

But in Medicine, as in other matters, the tide of progress has steadily been flowing westward, and one feels safe in saying that Chicago is now, or soon will be, the medical center of North America. That does not mean that the great eastern educational institutions are declining in power or prestige, but simply that the medical student and the physician, from the West, Southwest and the Midlands, no longer needs to travel to the Atlantic seaboard in order to gain instruction of the highest quality in any and every line of general or special medical practice.

Geographically, Chicago is in the middle of things. It is a great rail, bus and air traffic center as well as being reachable by water, and is not more than 68 hours from the remotest parts of the United States and the thickly settled portions of Canada. It is, moreover, only a few hours, by train, from the famous Clinic at Rochester, Minn., from the great school and hospital at Ann Arbor, and from the Battle Creek Sanitarium.

It is the seat of four important medical schools: Rush Medical College of the University of Chicago; Northwestern University Medical School; University of Illinois College of Medicine; and Loyola University School of Medicine, as well as five or six smaller general and special teaching institutions.

The clinical material in Chicago's great and smaller hospitals is enormous in quantity and of almost infinite variety. It is, moreover, well organized for teaching purposes, through connections with the various educational institutions. In addition to this, the Chicago Medical Society, one of

the largest and most efficient medical organizations in the country, has for several years conducted successful Summer Clinics at Cook County Hospital.

The teachers and leaders among the Chicago medical group compare favorably, in accomplishments and prestige, with those of any other city on the continent.

In addition to direct facilities for the usual types of medical instruction, Chicago, by virtue of its extensive industrial, transportation and commercial interests, offers opportunities for the study of the relationships and technics of the growing specialty of industrial medicine and surgery, which are second to none.

The headquarters of the American Medical Association and the American College of Surgeons, with their manifold activities and sources of useful information, are in Chicago, and the city also boasts one of the most complete medical and general scientific libraries in the country—the John Crerar Library—as well as the Chicago Public and the Newberry Libraries, and has an active and well-housed Medical and Dental Arts Club, as a center for the work of Organized Medicine.

And, as if all these professional and instructional advantages were not sufficient, its general cultural and recreational possibilities are immense. The Art Institute and a number of private galleries; the Field Museum; the new Shedd Aquarium and the Adler Planetarium; Grand Opera, winter and summer (the former in the magnificent new opera house; the latter in an open pavillion in the North Shore suburb, Ravinia), furnish an unexcelled variety of esthetic enjoyments; while the beautiful parks along the waterfront, with their bathing beaches, yacht clubs and tennis courts, the forest preserves in all directions and the golf clubs with which the metropolitan area is literally hemmed in, all call loudly for the leisure hours of the student.

Chicago is the logical medical center of this country, and the undergraduate or graduate student who fails to consider its offerings is doing himself a serious injustice.

Surcease

'Tis dark, and all is solitude and stars—
A heavenful of stars in God's employ
As candles for some angels' feast of joy.
And, look! There rides the ruddy planet Mars.
Breezes bring scents and airs of elf guitars—
Beauties which lovers of the day can never know—
The sound of upheaved earth where daisies grow;
Whispers of grass, in haste to cover scars
Of dear Earth's wounds. I prayed that Day might go
Quickly, and that my lovely mistress, Night,
Would come and hold me where her gentle breast
Rises and falls with peaceful breathing. So
And so alone do I gain respite, sight,
Life's meaning and the ecstasy of rest.

G. B. L., in "An Apostle of Joy."

LEADING ARTICLES

Medical and Dental Education*

By MILTON C. WINTERNITZ, M.A., M.D., *New Haven, Conn.*
Dean, Yale University School of Medicine

WE ARE coming to a very definite realization that education is a serious business; that it cannot be left to people who have private means and do it for a hobby, nor can it be left to people who could not make a decent living in the world of business; that it has to be a self-maintaining enterprise; that we have to have the best possible personnel that can be obtained, in order to succeed in bringing to the next generation the best methods of approaching the problems of their day.

We are definitely convinced that anyone can get a diploma, if he goes to the right place and stays long enough. "Save your coupons and get a diploma," the slogan that has almost dominated education, is no longer going to dominate. The cramming of individuals full of factual knowledge has no place in education. To give a man a point of view, a perspective; to give his intellectual inheritance the best opportunity for development, is what education means.

A tremendous change has happened in medical education in the past quarter of a century. But medical education is not perfect. It still has opportunities for improving itself and, therefore, it is well for other branches of learning not to follow too closely in the wake of Medicine and thus make the same errors that Medicine has made.

What has happened to Medicine? In the past half-century the introduction of precise science has necessitated specialization until, today, the physician does not regard one as a human being, but as a fraction of a human being. Perhaps the relations of Medicine and Dentistry are the best evidences of the fractionation of the individual.

What should be the objective of Medicine? Certainly not to treat one as a fraction of a human being, but as a part of society. Medicine is, in the last analysis, a social science. Its objective should be to preserve and promote health, to a point where one can be a useful and happy individual, in one's social environment. It does not aim, in other words, to fill a tooth and leave an infection at the root which will destroy the body, nor to preserve in some way a life which might be dangerous to society.

Care must be taken that the interest, from the point of view of physical health, does not overwhelm other values. Physical health must not become an end, but a means to the end of human happiness. We have concentrated on particular specialities to such a degree that we have lost, to a very considerable extent, a sense of the relation between a particular individual and society.

There are serious difficulties in the relationship between Dentistry and Medicine, from the standpoint of education, of economics and of the social setting. I went to what was considered a fairly good medical school, but had I not known that man had teeth before I went there, I certainly never would have found it out in the medical school.

I believe that most medical schools still

*Excerpts from a stenographic report of an address before the faculty of the School of Dental and Oral Surgery, of Columbia University, Nov. 9, 1929.

have that point of view. Of course, things have happened in the last decade and a half that have interested the medical man, in a general way, in the teeth, but he knows very little about them. The medical student is not taught the anatomy, the physiology, the bacteriology nor the pathology of the teeth, and when he gets into the clinic somebody may say, that here is pyorrhea or carious teeth, and perhaps, occasionally, in this enlightened period, a tooth may be extracted or something else may be done, but it is only as a secondary consideration.

Dentist and Physician

The dentist and the medical man do not meet on equal ground. The dentist has about the same relations to the orthodox medical man as has the social worker. The dentist is somebody who does something for the doctor. If the doctor wants him to do it, all right; and if the doctor doesn't want him to, it isn't done.

The dentist's opinion does not weigh heavily with the doctor. It is the doctor who is entrusted with the patient's life and it is he who must determine what is to be done, irrespective of what the situation may be. Even if a tooth is at the background of the individual's illness, that makes no great difference. It is a question as to whether, in the doctor's opinion, the canker at the root of that illness shall be removed, or whether he shall treat the patient symptomatically and prune off the dead limbs of the tree.

What do we know, today, of the chronic diseases of adult life? What do we know of the condition that we call arteriosclerosis? Twenty-five years ago we were told it was due to syphilis, tobacco, alcohol and other toxins. Syphilis is eliminated as it causes a special form of vascular disease; but tobacco, alcohol and other toxins—a beautiful name that means nothing—are still considered as the great causes of vascular disease. As a matter of fact, we know nothing about the etiology of vascular diseases, although they are involved in about 25 percent of all deaths. We have, perhaps suggestions, but there is no proof.

Probably the best suggestion available is that they are associated with insidious infectious processes, which may be focal in nature—certainly not generalized—but which play a very important part, in the opinion of some, in these chronic processes of middle and adult life. It is largely our interest in these chronic processes that has incited us to attempt to discover whether the teeth may perhaps play a role.

The Medical Curriculum

How can one adapt medical knowledge so that a student can get an idea of the body as a whole? It is said that the medical curriculum is already overcrowded. It is! Should it be? Hardly! Why is it overcrowded? Because the teacher, in each of the divisions of Medicine, takes the viewpoint that the student shall know as much as he does about the subject. He does not take into consideration the fact that colleagues in other fields do not know as much as he does about this particular subject, but the poor student must know, at least temporarily, as much as the professor does and then proceeds to forget all about it.

The point of view that teachers must have is, not how much time they can take in bringing a subject to the attention of a student, but how they can present the fundamentals of a subject in the briefest period of time. The easiest thing to do is to teach and to consume time in teaching The hardest thing to do is to concentrate one's knowledge and present a subject in its essence, instead of in its detail.

When one decides to do this, and is backed by one's faculty, it turns out that, in one-half of four years, of eight months each, all of the fundamentals of medicine can be taught to a student, which leaves him one-half of four years, of eight months each, or sixteen months, in which he can do something else. And that does not take into consideration four months of four years, which are considered as vacation, which makes sixteen months more. So the student has thirty-two out of forty-eight calendar months to do something besides learn the fundamentals of his subject.

This isn't hypothesis. This is fact. We are doing it!

What do we do with the rest of the time? We give the student the opportunity to review work or to take longer to acquire what the average student can acquire in the time that is allowed. This is what is done by one group of men. Other men decide that they are particularly interested in a certain field, about which they have studied and know something, and they do further work in that field. Still others decide that they want to do advanced work, investigation in a field, and they do that.

But this latter attempt requires organization. It requires thought.

For a group of two hundred students, for example, approximately four hundred elective opportunities are required, in order to allow the students to take advantage of two-thirds of their four years in medical school in one or another or several subjects in which they are interested and in which they desire to perfect themselves.

A great deal of latitude is given the student. All of his time is concentrated, one-third in acquiring the fundamentals of a subject and finding his interests, and two-thirds in further work in some field in which he and the instructor believe he has the ability to go on.

The students that come into medical schools today have had a minimum of two years' education in college. They are mature individuals. Why should they be marked for attendance and absence? Why should they be marked on a quiz or a recitation? Those of us who have had experience and are quite honest about marking quizzes and recitations know that we can mark, "Good," "Bad" and "Indifferent," and that is where we stop. So we have no examinations, except half-way in the course and at the end before graduation. The student comes up for his examination when, in his opinion, he is prepared for it, not when we think he ought to take one. If he fails, he fails on two counts: One, his lack of knowledge; and, two, his poor judgment as to what he knows.

His examination is not given by the teachers who taught the courses, which is again a very great psychologic advantage. If a student felt he could learn pathology better by playing golf than by listening to my lectures, I should have to bless him and say, "Play golf." The question is, does he know it or does he not know it? And it isn't I who judge whether he knows it; because why should he know as much pathology as I know, admitting that I know any? He has to know enough pathology to satisfy the men to whom he is seeking admission—the professor of medicine, the professor of surgery, and so forth. They should decide whether he should be admitted to their groups, not the specialist in one field, who has worn blinders for twenty-five years to make him forget that there is any other subject.

The Student

Of course, the students do not like that. Who likes anything which makes him think? It is so easy to start a class at eight in the morning and to continue through lectures all day long; and it is so hard to think and stand on one's own feet!

Usually the student is left alone until he is ready to graduate and then he comes along and says, "What shall I do now? I have finished my course. I don't know what to do. I think I will take a rotating interneship. I will learn a little more about everything." He hasn't been up against the problem of critical choice and he doesn't know how to act when he comes up against it.

We are trying to give students these problems of critical choice early enough in their education so that, when they actually do complete their socalled collegiate education or medical education, they will be used to thinking, investigating their desires and their abilities and coming to conclusions as to their aptitude and their opportunities; and then, not go on learning a little more about everything, but, with a solid, broad foundation, proceed to learn something in which they must become more expert, more dexterous, in order to attain the position which the world demands today of the specialist. Then they will be specialists with a broad foundation.

The foundation is very narrow today. It is partly the educator's fault, partly the fault of legislation. The average medical man decides that he is going to be a doctor, because his father or somebody else is a doctor or he has to do something.

These men do not know why they are going to study medicine, but early in their college course they stop learning everything else and concentrate on chemistry, physics, mathematics and biology. Press a button and they will recite biology; press another button and they will recite chemistry. They do not know how these sciences integrate with the objective they are seeking, and many of them will never use physics or chemistry again in their work. But they are stuffed with it. Then they go to a medical school and, for two years, they dissect a cadaver—an inanimate affair. Then they work with test-tubes and guinea-pigs and they conceive of man as a decerebrated animal. They have had four years' experience dealing with something that is not alive —that has no place in society—and then they are thrown suddenly with sick people, and they keep on thinking that these people are guinea-pigs or cadavers, or test-tubes, and talk about nonprotein nitrogen and things of that sort.

The patient may be cured of his illness, but goes out of the hospital sicker than he was when he went in. Then he goes to an osteopath or a chiropractor or a Christian scientist who tells him, "If you will come to me every Friday morning at eleven o'clock, for ten weeks, you will be cured." And he is cured, because there is nothing physical the matter with him.

Medicine is primarily a social science. Man is not only a body, but he is a mind. Men rub against each other. One must know the integration of the mind and the body and the contacts of one individual with another; otherwise, one will regard medicine as an end, whereas it should be a means to an end; namely, the satisfaction of mankind, the general well-being of mankind the general usefulness of the individual.

Dentistry and Medicine

I have heard very little about Dentistry, in its relation to Medicine, from medical men, but this has been a very prominent matter of discussion among dentists for a long time, and rightly so. We have lived nearly a hundred years in the most perfect example of an absurd condition that could possibly be conceived of; namely, that Dentistry should be an entity, separated from Medicine.

There are no dentists, today, who are prepared to cooperate with Medicine in the way that is essential; and there are no medical men, today, prepared to cooperate with Dentistry in the way that is essential. One cannot change this situation overnight. Time is required; the vested interest of the group, the educational policies, need time for adjustment. We have to train a group of men, in the first instance, who will stand on an equal footing with the physician—who will have the respect accorded to the surgeon or the ophthalmologist or the orthopedist or any of the other specialists. This new group must know Dentistry and must know Medicine.

The medical student and the dental student are not admitted on equal terms into any college that I know anything about and, until they are, we are going to have this split. If we can adapt a curriculum, so that a man does not have to know all there is to know, about everything that is taught in every subject, and can salvage enough time so that the student will have two-thirds of his opportunity for elective work, it is quite conceivable that he might learn something about the teeth, just as he learns about other parts of the body.

In the clinic, men who know Dentistry and know Medicine will have to act as specialists from the standpoint of the teeth just as others act as specialists from the standpoint of other parts of the body. Dentistry has taken the forward step already, in not making it necessary for the dentist to do everything that a dentist of fifty years ago did. And medicine is following in the wake.

Different levels of education are being recognized. It is not necessary for a man to have studied Medicine in order to be one kind of a surgeon. That was proven in Germany a few weeks ago when a cobbler was arrested for having performed 600 operations, successfully, without a medical degree.

A *real* surgeon must be, in the first instance a doctor, not an operator. In the second instance, he might be a therapeutic specialist but he does not make his gauze sponges; he does not give his anesthesias; he does not make the casts and braces and the other things that are necessary in his work; he does not even make the clamps with which he clamps off blood vessels, because those things have been relegated to people who can do them without being taught surgery or medicine.

This applies even more to the dentist. I asked some dentists, not long ago, how many men a competent dentist could supervise, and they said, "Twenty, with the greatest ease." And the people that he can supervise might be technicians. The question is, will anybody be a technician, or will everybody have to be a superman?

We place a premium on artificial values, today. It is not how well a man does his job that counts, economically; it is what his job is. We are able to inflate the value of jobs by our "unionism"—by creating artificial nomenclatures, which make it difficult for anybody else to understand what we are doing. In that way we build stone walls, which brook no interference, around our particular subjects.

The premium should not be on the job: It should be on how well that job is done. If we could create a natural division on quality, it would be much easier to attract the proper type of personnel into what we consider to be menial occupations, but which are absolutely essential, today, in our social organization.

At New Haven we are trying an experiment. We have established at the present time four focal centers of research involving the structure of the teeth, the nutrition and function of the teeth, and infectious processes involving the teeth, and a clinical group that is interested in trying to ascertain the relation of the teeth to the rest of the organism.

We train our own personnel. We believe that, at a post-mortem examination, the teeth might be looked at. I do not believe they ever have been before. We are taking out the tooth and alveolar process, studying it bacteriologically and pathologically, comparing the x-ray findings at autopsy with these during the life of the individual; and all the medical students are learning this, as well as a smaller group.

We have established a study unit in oral pathology and stomatology or any other name one wants to call it, with the idea of giving different groups of men, in different fundamental sciences and in different branches of clinical medicine, as full a knowledge of the interrelation of the teeth to the rest of the body and of the rest of the body with the teeth, as possible. The main objective is to bring the teeth back into the organism, from the standpoint of medicine.

We have selected a few young men who have had a complete or nearly complete dental education. We are giving these men the necessary means to live and enrolling them as ordinary medical students.

They ought to have a minimum of 75 percent of their time absolutely free for investigative work, and that time they are devoting to resarch in the focal centers which we have established. In other words, they are capitalizing their knowledge of dentistry and the knowledge of medicine that they are acquiring, in particular problems associated with the interrelation of the teeth to the rest of the body.

Perhaps these men eventually will become interpretive medical dentists, or whatever one may care to call them, and be able to teach prospective doctors the importance of the teeth in relation to the body. They may be able to go to dental schools, if there are such at that time, and teach the importance of the teeth in relation to the body as a whole.

How far that process will develop is hard to say. It seems to me that, if we fulfill the wish that has been expressed so often by the best representatives of the dental profession, that Dentistry will become a portion of Medicine, coordinated with every other specialty; that the dentist of a generation or two hence will have as broad a knowledge of man as a whole, as has the ophthalmologist, the orthopedist or any other specialist of Medicine. There will develop perhaps at the same time, different groups on different levels, with different educational requirements, who will assist the dentist from the mechanical standpoint wherever special attention to the teeth is required.

333 Cedar St.

The Idea and the Method in Medical Research

The experimental method cannot give new and fruitful ideas to men who have none; it can serve only to guide the ideas of men who have them, to direct their ideas and to develop them so as to get the best possible results. . . As only what has been sown in the ground will ever grow in it, so nothing will be developed by the experimental method except the ideas submitted to it. The method itself gives birth to nothing. Certain philosophers have made the mistake of according too much power to method along these lines.—Claude Bernard: "*An Introduction to the Study of Experimental Medicine (English translation)*," *New York*, 1927.

Mistakes in Every-Day Surgery

By Gustavus M. Blech, M.D., *Chicago*

IN SPITE of the great advances made by modern surgery, many of us commit errors in our every-day work, perhaps because we have lived on without critical analysis of our activities.

We are not here concerned with diagnostic errors, to which even the best trained minds are not immune, nor do we care to discuss the many mistakes made by incompetent or criminally negligent charlatans. What we are interested in are errors made by all of us who are really striving to live up to the high ideals of the medical profession.

I am constrained to lay the blame for the mistakes we make partly on improperly arranged curriculums in the universities and partly on our readiness to accept socalled authoritative statements in the contemporaneous literature, without first having subjected them to clinical verification.

To illustrate what I have in mind, we need but glance at the practical training of our students. The faculties stress scientific problems of a complicated nature and rely on the intern year in hospitals to bring to the neophyte the thousand and one manipulative details which even the occasional operator must command. Only recently, the best European universities and examining boards have been indicted because they insist that no license be issued until a candidate has shown ability to use the ophthalmoscope, while no demand is made to show skill in the introduction of a male urethral sound. This criticism is just, because few general practitioners have occasion to do ophthalmoscopy, while many encounter strictures of the urethra, retention of urine and the like. I, for one, would not care to depend on ophthalmoscopic findings reported by any but specialistically trained practitioners; while the amount of damage that has been done through improper manipulation of urethral bougies, in the way of false passages alone, is beyond calculation.

Humanity, in all walks of life, seems to have an almost superstitious confidence in the printed word. We are no different in this respect. Let some prominent medical journal publish an article on some therapeutic measure, and the most absurd reported successes are swallowed as gospel truth. It is a common experience, in the literature, to observe waves of confirmatory reports follow in quick succession, until the novelty dies a natural death of inanition.

Asepsis

Ever since the introduction of antisepsis and its transformation into asepsis, we have accepted the teaching that our developed method of surgical cleanliness stands like the rock of Gibraltar defying the most virulent bacteria. We have accepted our aseptic surgical technics as infallible—as the last and final word in the safety of surgical procedures, as far as infection is concerned. We have had repeated contradictory experiences without our eyes having been opened to this fallacious belief. When we found wounds, made with clean instruments handled by boiled gloves and protected in the prescribed manner against outside infection, suppurating and, worse yet, producing serious sepsis, we blamed the catgut; we suspected some endogenic factor; we sleuthed for the criminal by making cultures from the patient's throat; in fact, we sought some intruder into our immaculate temple. And we did all that without ever questioning whether our asepsis is really as infallible as we have been taught to believe.

But what are the facts? Catgut is hard to sterilize and the claims made by manufacturers, that their particular make is sterile, are sometimes absurd; and bacteriologists have shown us, again and again, that even our boiled silk is not sterile, that our rubber gloves are not sterile; that the dressings we have subjected to live steam are not sterile; in short, that neither boiling water nor steam under pressure has, so far, completely destroyed all pathogenic bacteria, and certainly not all spores. Yet we go on in our work, not realizing that healing by primary intention is a matter of systemic resistance, rather than the re-

sult of our scientific armamentarium, until we are shocked out of our false sense of security.

We have, at present, no means of sterilizing the human skin. The few chemicals we employ, notably iodine, we know or ought to know do not destroy the bacteria, but merely fix them—in itself a wonderful achievement. Yet, in spite of this limitation, many among the laity and not a few among the medical profession believe in the application of the tincture of iodine, as an agent which at once saves an injured person from the ravages of septicemia and pyemia.

In this belief, we have seen a number of practitioners performing rites which are, not only unscientific, but are, often enough, followed by more or less serious consequences. As late as this year I saw a young physician paint the entire wound of an injured hand with tincture of iodine. When I asked him afterwards why he deliberately destroyed his best friend and coworker in the healing of wounds—the *vis medicatrix naturae*—he stared at me as if I had become bereft of my senses. He had seen that done again and again by his preceptors and he reasoned that, if iodine was good for the skin, as we apply it before operation, it certainly should be good for an accidental wound, which surely contained germs.

Dressings

Very recently a young girl was brought to my office. Her parents told me that, a month or so previously, the girl had been knocked down by an automobile and had injured her hand. There was an extensive abrasion and a slight wound. She had been taken, almost immediately, to the family physician, who applied moist dressings daily, but the wound was not doing well.

One glance at the dressing and bandage convinced me that she had been in the hands of a technically well-trained physician. He had applied a better bandage than I could have put on. But when I took off the bandage I also saw that the moist dressing had been wrapped in oiled silk. I did not know what chemicals the attending physician had used, and that was immaterial. The wound was not doing badly. The trouble was that some one in authority had not forbidden the manufacture of impermeable material for surgical purposes. The wounded hand looked waterlogged and the wound itself lifeless and slightly suppurating.

I applied a simple, dry gauze dressing. My bandage was not half so beautiful as the one the patient had on when she consulted me, but in a few days the appearance of the wound changed and healing was attained in one week. To this day the patient and her people wonder what wonderful chemical I used to produce such a change.

It is not my intention to take up the problems of pre- and postoperative care, but I cannot but mention two errors in the management of postoperative wounds. One can, often enough, see patients subjected to unnecessary dressings after what has been regarded as a clean operation. Evidently the attending surgeons feel that unless they change the dressings once a day they will be charged with neglect. Yet, if there is anything that will help in building up reputation, it will be the patient's gratitude for having been disturbed, during convalescence, as little as possible. The obverse to this picture is seen when physicians fail to examine a wound, even when the patient complains, after the operation, of pain, or at least a disagreeable sensation in the region of the operation. Even in the presence of an unexplained rise of temperature, many fall back on intestinal toxemia and prescribe an enema or laxatives. When, later, the wound finally is examined, a good deal of dammed-up sero-pus necessitates reopening it, followed by voluminous and repeated dressings, which, fortunately, in the majority of cases, results in no great harm. In a few instances, an unnecessarily prolonged stay in the hospital is the worst consequence and, in relatively few cases, the patient has to seek another surgeon for the repair of a ventral hernia. I say *other* advisedly, for, in most instances, they do not go back for operation to the first surgeon. They have lost confidence.

The removal of a gauze drain after laparotomy would seem to be a maneuver of such insignificance as to be entirely out of place in a discussion such as this, but I was not a little shocked to read of a death resulting from peritonitis, directly attributable to the removal of an abdominal gauze drain. Forty-eight hours after the operation the patient in the case was doing well. The attending surgeon

decided to remove the drain. On finding that it resisted the pull, sufficient force was used to attain the desired (and undesired) end.

Reflecting on what I have had occasion to see myself, I may be pardoned for pointing out that gentleness in all manipulations should be the *conditio sine qua non* in modern surgey. It is a serious mistake to cause pain and shock, whenever it can be at all avoided. Nine times out of ten the removal of an abdominal drain frightens the patient even before we have begun, and often enough I have seen symptoms of mild shock following the procedure. All this has a bad effect and reflects on the surgeon. It can be avoided partly, by wrapping our gauze drains in rubber tissue, by delaying the removal and, if resistance be still felt, by removing the drain gradually. The surgeon who knows how to enter the sick-room and speak of the procedure as a beneficial act, will also be able to relieve the fear element on the part of the patient.

Gentleness and Skill

Gentleness is, to a certain extent at least, a gift. One can see that in the operating room every day. One man performs a comparatively difficult operation apparently with ease, playing with the scalpel as a virtuoso utilizes his bow on a violin; while another does a similar operation with evidence of undergoing an ordeal. Natural adaptability and practice are the proper solution for this problem, whose worst aspect, everything else being equal, is, that the latter type of surgeon will prefer to use general anesthesia, where the former will be able to resort to local or spinal analgesia.

When one sees simple manipulations done in the office taxing the patience of operator and patient, one feels that there is something wrong somewhere. I have heard one otherwise really able surgeon sharply criticized because it took him a long time and great effort to remove a cast from a leg. Popular criticism, even of this nature, must be taken more or less seriously. The surgeon in question used a "hack saw," as the patient put it, and "pruning shears" and a "saddler's knife," and yet the cast would not come off. This remark was made as an implied compliment to me, simply because I happen to resort to acetic acid to soften the hard material before cutting. This may not be serious, but, considering the struggle we all have at present for a decent livelihood, in the face of cults, rivalry and even fair competition, every apparently insignificant step which displeases patients and tends to drive them to seek other advisers is serious enough to merit consideration.

The removal of ordinary dressings from suppurating wounds, and of adhesive plaster, are worthy of mention. In the daily routine, few physicians take the trouble to investigate the effect of their manipulations on the psychology of the afflicted. The patient has a right to expect that the minutes he spends in the surgery, for a change or removal of dressings, should not be an ordeal. A sticky dressing does not come off easily and its removal causes pain. A few minutes spent in soaking the dressings in an alkaline solution will produce wonders, and one acquires a staunch adherent. Likewise the rather brutal tearing off of a wide strip or strips of adhesive plaster, merely to show the patient how quickly it can be done, is as crude as it is unnecessary as, with a little benzine, the strips can be removed gently and painlessly. In war practice Napoleon's "vitesse" is appropriate; but in peace practice the opposite method will tend to remove the present popular fear of surgery and all that goes goes with it.

Conservative Thoroughness

Common sense must be a guiding factor for radicalism in one case and conservatism in another. Sins of omission are often as bad, if not worse than, those of commission. A man is brought to us who has his hand pushed through a pane of glass. He has a comparatively small, clean, incised wound, It has bled, but when the emergency tourniquet has been removed, it is found that all bleeding has stopped. The attending surgeon sutures the wound, dresses the patient, takes the stitches out a week later, is very proud of the result and dismisses the patient. Months after, when the little incident is forgotten, the surgeon is not a little shocked to receive a letter from a lawyer demanding settlement or facing a jury for malpractice. The first thought may be that of blackmail or just a plain hold-up game. His conscience is clear. He has been careful. He has been conservative. The patient made a good recovery. There was no infection. His blood is boiling about the ingratitude and wickedness of mankind.

He consults his attorney who, of course, interviews the patient's attorney. What he is told is not pleasant. The patient found, soon after his discharge, that he could not use his hand so well as before the injury. He consulted another surgeon, who immediately advised the patient to enter the hospital for an operation. Deep in the old wound, tendons had been severed whose repair was necessary.

This is not a hypothetical case. I know of many similar instances, in which a cursory inspection of a comparatively small wound sufficed to convince the surgeon who gave first aid that he had to deal with a simple external injury; yet we were called upon to control very serious secondary hemorrhages and, in at least three instances, nerves had been severed. Conservatism? Yes. But conservatism means careful functional testing and, if need be, enlargement of the wound and careful revision of the deeper structures.

Per contra, I know of many physicians who have lost women patients and, through them, their families and friends, because they were too radical in the treatment of infections, especially in puerpural mastitis. It was formerly considered proper practice to make large and multiple incisions for the drainage of these abscesses. I recall that, in at least one instance, an elderly physician went so far, in his zeal, as to curet an abscess cavity for the removal of debris. It never dawned on him that he spread the infection through the lymph channels. We had all we could do to save this woman's life.

There is really no excuse for all this. I was one of the first, in the English-speaking countries, to popularize Bier's method of artificial hyperemia in this and many other forms of phlegmons and infections. It is simple to cure a mastitis by making one or more exceedingly small stab-incisions, followed by suction hyperemia. Even in a most exquisitely painful gonococcal arthritis, a simple rubber bandage, properly applied, can relieve pain much better than fixation of the affected joint, and eventually effect a cure without ankylosis. Here we have a method for conservative surgery *par excellence,* but, unfortunately, the whole thing has been discarded as a fad, simply because it has not proved a panacea for all infections. But let some foreigner recommend some chemical, protein therapy or some vaccine and we adopt it with gusto, irrespective whether we have tested it or not.

In certain malignant conditions, the authoritative teaching has been to operate radically. Not many years ago I saw a middle-aged woman with a small carcinoma of the lip. I advised immediate operation and explained to the patient and her daughter that, under present methods, we have a relatively safe way of operating; that no great disfigurement will result; and that, as a double precaution, I would suggest a few applications of the x-rays. They promised to think it over. Shortly after, I learned that this woman went to a surgeon who had ridiculed my conservatism and had cautioned the patient that, unless she submitted to a very radical operation, she was doomed. A most extensive operation was performed. In five months there was recurrence. Then I was again consulted. I advised the patient (with glee, I fear) to go back to the first surgeon.

Endothermic Surgery

I have done a comparatively large number of conservative operations for cancer of the face. I have operated throughout with the diathermic cutting current. The results have been excellent. We have, so far, had no recurrences. I do not, however, say that this method of operating promises such excellent results in all cancers.

I am convinced, from my experience, that, in all malignant tumors, the classic dissection with the scalpel must be condemned. We have, in the diathermic current, a method of operating which dissects even easier than can be attained with cold steel and, as it has the advantage of sealing the blood and lymph vessels as we proceed, we certainly minimize the danger of implanting malignant cells into healthy tissue. These wounds can be sutured, where sutures are applicable, and for the rest we can leave the external carcinomas to heal by epithelialization.

As the diathermic current absolutely controls capillary hemorrhage, we can survey the operative field with comparative ease. Not in one case I have so operated upon (and they are more than a hundred) have I seen shock or postoperative pain. I once extirpated a cancerous breast, and the patient wanted to go home on the third day; while in another case, in which I ablated the whole external ear and adjacent structures, the elderly and decrepit patient insisted on returning, the next day, to his home. I feel, then, that in all forms of

malignant neoplasms, it is a great mistake to resort to classic surgery.

The diathermic surgical current is also exceedingly useful in a number of non-malignant cases. As in everything else, the tendency to overenthusiasm should be checked. Too much is claimed for the advantages of this method of operative surgery.

In urethral caruncle we have, in surgical diathermy, a valuable aid. Many of us have been disappointed, after excising these little growths, to find, months later, that they came back, more annoyingly than ever.

In the past two years I have destroyed these growths in two seconds by coagulation. The first operation was done twenty-two months ago, and the last nine weeks ago. I have seen the older patients regularly, and their caruncles seem to be gone permanently.

It will, of course, be some time before this method can be popularized as it should be—partly on account of the expense; partly because the manufacturers have only recently been able to turn out reliable apparatus—but, as each hospital has or should have such an appliance, I am sure it should be employed whenever indicated.

An apparently insignificant incident recently occurred to show how hard it is for some of us to break with old traditions. A young colleague complained to me that the hospital was not well equipped, because he had asked for a silver nitrate stick and none was to be had. He stated that he had a laparotomy wound which was partly open and in which he saw excessive granulations. I remarked that the hospital ought to be given a medal for not having such a dangerous and useless chemical. My young friend was nonplussed for a moment, and then demanded the reason for my criticism of the use of the silver nitrate stick. I told him that the granulations would not spring up unless there was a reason, and that he might destroy them as often as he liked but they were sure to come back until the actual cause was removed. He asked me to look at the patient, but there was no need for it. I called for some instruments and removed a ligature.

Anesthesia

Those of us who are often compelled to operate in small hospitals or in homes in country towns which have no hospital facilities, and are not in the happy position of being able to take along a trained anesthetist, have to fall back on the services of some general practitioner, often the man who has called us to do the work.

The way in which the ether is usually administered is horrifying. Well and good, if the patient happens to be in good physical condition and the operation can be carried out in a few minutes. But where we have to deal with very sick individuals and the operation must last half an hour or perhaps longer, the danger from the anesthetic is often greater than from the operation itself. No one likes to be criticized, especially in the presence of witnesses, but as the surgeon has the sole responsibility it behooves him to see that the patient is given every benefit of modern science, and that means that ether should be properly administered by the open-air-drop method. The common error committed is that the volunteer anesthetist *pours* the ether over the mask; does not control choking spells; and, when the patient happens to strain, he wants to be helpful and increases the volume of the stream of ether.

With a little tact, this objection to ether anesthesia can be obviated. If I do not know my man (or woman), I ask him or her to help me by using the "reclination method"; that is, to bring the patient's head over the end of the operating table the moment he shows embarrassed breathing. I add that I also want the anesthesia to be as light as possible, and for this purpose I suggest that the ether be given actually drop by drop—say about 120 drops to the minute—and dropped on the mask, from a height of two to three feet. With a preliminary dose of morphine and atropine and the judicious use of a few drops of chloroform, given *after* the ether has been administered during the first stage, the patients go under easily and the anesthetists almost instinctively feel that the "new" method is to be kept up. If, in addition, the operator has taken the precaution to teach the patient, before the anesthesia has begun, to breathe deeply by command, and then demonstrates to the person who is to superintend the after-care how easily the awakening patient can breathe deeply by command and thereby clear the lungs of the ether, he will have fewer ether pneumonias and certainly none of the cases of bronchitis which follow in elderly patients, after prolonged general anesthesia.

In conclusion, I again plead that we ignore the spirit of the times, which spells "speed," and practice "heed" instead.

108 N. State St.

Clinical Results from Stimulated Leukocytosis

By Burr Ferguson, M.D., *Birmingham, Ala.*

THE THEORIES governing the treatment of infective diseases are said to be in a chaotic state. The accepted ideas used in the treatment of syphilis, malaria, diphtheria and scarlet fever show this chaos very clearly. We poison the treponemas by the addition of a grain or two of mercury, innocuous bismuth or a few grains of arsenic, added to twelve or thirteen pints of blood. Quinine also becomes a poison to the malarial organism, when in solution in the blood. With diphtheria, however, we are content to add to the blood of the patient an agent of equine origin, the injection of which is followed by neutralization of the toxins, the Klebs-Loeffler organism dying because of disappointment at the easy removal of the products of its life's work. Scarlet fever we approach from another angle, in that the antibodies of the vaccine stir up more antibodies in the patient, and the active microorganisms of the infection disappear because of the excess numbers of the antis.

Many determinations have shown that each of the foregoing procedures is attended with a more or less marked stimulation of the white blood cells. Hence it is undeniable that the positive results seen in the treatment of the infections just mentioned, are attended by an artificial leukocytosis. This fact is in harmony with the opinion of Hippocrates who said, toward the end of his life, that every one carried a vital spirit, for the correction of the ailments of the body, and he was the best physician who interfered least with the work of this purely natural force. Metchnikoff was a bit more exact when he made the generalization that the one constant element in immunity is phagocytosis.

Two of the most widespread infections are treated by diet, sunlight, fresh air, observation and hope. The first and greatest of these is the pyogenic invasions. At the site of the lesion we use germicidal solutions, to poison the infecting organism when it reaches the surface of the wound, safely engulfed in the body of a polymorphonuclear cell—the "laudable pus" of our medical predecessors—the active agents of the infection being below the surface, untouched and unhurt by the lethal solution at the surface of the wound. Such procedures are aimed at the effect, and not the cause of the illness.

The hosts of the tubercle bacillus, likewise, are treated by supportive measures of diet and careful observation, and records are made of the daily variations of temperature and rate of the pulse; but, so far as I know, there is no accepted plan for use against the organism.

Since the white cells have been used for a generation as indicators of the resistance of the host and the virulence of the infecting organisms, would it not seem logical to follow the suggestion in this reaction by an artificial stimulation of this natural force, in the treatment of infective diseases?

The cellular theory of immunity gives a cogent explanation of the survival of our forefathers in the great epidemics, when such infections were thought to be God-sent disciplinary measures, for the correction of the erring human animal. We certainly cannot attribute their survival to the therapeutic procedures of those days, for the clinical application of past and present immunologic theories has resulted in comparative failure.

Through the kindness of Dr. R. A. Burns, chief physician of the State Convict Department, beginning in December, 1929, I was given the opportunity to use the leukocytes as therapeutic agents in the treatment of infective diseases, in the prison hospitals near Montgomery. The hospital in Kilby Prison I found to have an excellent laboratory and x-ray room, under the direction of Dr. Fred Boyd. A well-trained roentgenologist and laboratory man, a prisoner, gave enthusiastic and valuable service in the clinical determinations that follow.

Infected Wounds

In an attempt to escape, a man of 30 was shot through the right tibia and fibula, producing a comminuted fracture. Within

a few days, the wound showed signs of infection, accompanied by the usual inflammatory reaction.

The advisability of an amputation was considered but, fortunately, it was determined to postpone the operation for a few days, in order that observation might be made of the infected wound under the influence of stimulated white cells. The leukocyte count was then 16,300. One hour after the intravenous injection of 2 cc. of colloidal mercury sulphide, the count was 22,600. Within 24 hours the pain was much improved; temperature, 100°F.; and the patient said he felt much better.

Alternate injections of 10 cc. of hydrochloric acid C.P., a 1:1,500 solution in distilled water, were given intravenously, every three or four days. After the fourth injection, the temperature was normal and there were only occasional flashes of pain. One injection of the mercury sulphide and one of the acid solution are still being given every 2 or 3 days. There is still a slight exudate from a small wound; the leg is in a cast; and the patient is sitting in a wheel chair during the day.

In the second pyogenic infection, Dr. J. F. Hill, surgeon to the Department, and Dr. Burns considered the advisability of the removal of the hand, at the wrist, but, as in the preceding case, the amputation was postponed, in order to observe the behavior of the infection, under the influence of the artificially stimulated white cells. The leukocyte count was 12,000. One hour after the intravenous injection of 2 cc. of colloidal mercury sulphide, the count was about 18,500. Within 24 hours there was a marked clinical improvement, the incised wound was draining freely, and the pain was subsiding.

On the third day, an intravenous injection of hydrochloric acid, C.P., 1:1,500, was given, alternating with the mercury, for two weeks, at which time the hand was normal, save for the necrosed bone in the phalanges of the index finger. Within the month the finger was amputated. The Wasserman test was negative, in this case, prior to the administration of the mercury.

Chronic Furunculosis

Furunculosis with exacerbations for the past two years, in a man of 36, furnishes another illustration of the value of the white cells in pyogenic infections. This patient looked 60 years old, as he had been a morphine addict and a narcotic salesman, prior to his enforced retirement two and one-half years ago. All manner of recognized therapy had been used in the treatment of the infection, but had not been successful, as had been the relief from the "drug of dreams." This habit had been promptly cared for on his admittance, as he had been put in a cell and the drug stopped at once.

This patient was admitted to the hospital on February 5, 1930, with active infections on his neck and hands. The leukocyte count was 11,800, so showing that the "vital spirit" of Hippocrates was attempting to clean up the boils.

With 10 cc. of hydrochloric acid, 1:1,500, intravenously, the count was brought to 15,700 within an hour. The acid solution was followed, in forty-eight hours, by 2 cc. of colloidal mercury sulphide, the count increasing 7,000 within an hour after this injection. Some of the lesions were aborted, others were draining freely and, after ten injections, the patient was normal. There have been no recurrences of the infection. As a prophylactic, four more injections were given, alternating the acid with the mercury. The Wassermann test in this case was also negative.

Arthritis

On the 13th of December, 1929, I saw a case of arthritis of the right knee, the foci of infection being in the roots of several teeth, which were extracted within a few days, and the alternate injections of the acid solution and the colloidal mercury sulphide were begun at once. The leukocyte count, before any injection was given, was 11,650. In order to demonstrate the effect of the artificial stimulation of the white cells, differential counts were ordered.

11 December:	
Large lymphocytes	1
Small "	41
Polymorphonuclears	57
Eosinophiles	1
13 December:	
Large Lymphocytes	4
Small "	30
Polys.	65
Eosinophiles	1
17 December:	
Large Lymphocytes	2
Small "	35
Polys.	63
6 January: (leukocytes, 7,700)	
Large Lymphocytes	3

Small Lymphocytes	16
Polys.	80
Eosinophiles	1

This patient had been confined to bed for several weeks, before this plan of treatment was started. Under the influence of the regularly stimulated white cells (and, of course, the removal of the source of the infecting organisms), the clinical improvement was steady and, within the month, the patient was sent back to his cell, making regular visits to the hospital for the injection of the mercury or acid solution. He is now wholly well.

Colitis

On the December 9, 1929, I saw a prisoner, 43 years of age, who was said to have had dysentery for eight years, with 15 to 18 evacuations a day for several weeks past and bloody mucous stools. He was weak, spending most of his time in bed, the walk from bed to toilet being his only exercise. His weight was 130 pounds.

Whether this was an amebic infection or an ulcerative colitis, I had no means of knowing, as there is no laboratory nor x-ray equipment on "Tuberculosis Hill"; nor was it of any great importance to know, so far as concerned the clinical determination.

The administration of the hydrochloric acid solution, 1:1,500, intravenously, every other day, was started at once. At my next visit, seven days thereafter, the patient had improved—was eating better; stools reduced to 10 a day; and showed a gain in weight of 3 pounds.

The acid injections were continued and, within five weeks, the patient was given light duties about the kitchen.* At the end of two months, the injections were changed to 3 cc. of colloidal mercury sulphide, and the improvement seemed still more marked, the stools having been reduced to three or four a day.

When I saw him last, on March 30, he was doing full duty in the kitchen and weighed 159 pounds. The clinical effect of this treatment was highly satisfactory, even though no positive diagnosis was made.

Tuberculosis

Fifteen miles from Kilby, at Wetumpka, is the isolation hospital, the colloquial name of which indicates the purpose for which it is used—"Tuberculosis Hill." Here I found well-ventilated, frame buildings, extremely well kept; wide verandas; ample fresh air and sunlight, on the good days; good food and an abundance of milk, from the prison dairy.

There were ten men confined to their beds, and it was upon these patients that the observations were made. Histories of two of these will be presented, the others having shown uneventful improvement in their clinical conditions, under this plan of treatment.

This hospital has no laboratory, so no record could be made of the behavior of the white cells. However, in the occasional counts made on these patients, as well as in many other cases of pulmonary tuberculosis, a marked leukocytosis has been found, regularly.

About the first of January, a man of 44 years was sent to the hospital, before his trial, because of his serious condition, from the tuberculous infection of his lungs. He weighed 119 pounds on admittance and had a temperature of 102°F. On the night of the 3rd of January there was a profuse hemorrhage from the lungs.

I saw him first on the morning of the 4th. His breathing was shallow and rapid; he was very weak; his lips were stained with blood; and he answered questions in monosyllables. I remarked to Dr. Burns that this was no proper case for a trial of the white cells, but that the prospects for an interesting postmortem were excellent.

With the belief that the bleeding would be controlled by the artificial stimulation of the white cells, this seemed a useful case for this determination. Ten (10) cc. of the hydrochloric acid solution, 1:1,500, intravenously, every other day, was ordered.

On my next visit, seven days thereafter, the patient seemed a bit stronger, in spite of a marked reaction after the third intravenous injection of the hydrochloric acid solution. There had been no further bleeding. On account of the marked reaction after the third injection, the strength of the solution was reduced to 1:3,000.

A gradual increase in appetite was attended by increased strength and an improved appearance. In the fourth week, the intravenous use of colloidal mercury sulphide was begun, injections of this agent being given twice a week.

Sputum examined on the 5th of February, in the laboratory of the Convict

*The use of a patient of this type as a food handler was a serious sanitary error.—Ed.

Department, showed: "Staphylococci, streptococci and tubercle bacilli—some engulfed in polys.; some scattered."

Seven weeks after the beginning of this plan of treatment, the patient had so far improved that he was allowed to sit on the veranda. The weight was increasing and, with this improvement, he began to walk about the ward and porch.

I saw him last on the 30th of March, sitting on the edge of the veranda, in the bright sunshine, swinging his legs. As I passed him, waving a good-bye, he said with a smile, "Doctor, I surely cheated you." With wonder as to how this incarcerated individual could have done so, I asked for information. He replied, "You remember, the first time you saw me, you told Dr. Burns what a good postmortem you could do on me, and I cheated you out of it, 'cause you ain't never going to see my insides." His weight, on the 30th, was 138 pounds, against the 119 on his admittance, so I think he was right and I will never see his insides.

On the 7th of January, 1930, I saw first a negro boy of 21 years, with infection of the upper lobes of both lungs, and the abdomen so tense and distended that nothing could be felt by palpation, on account of the amount of the serous exudate. So, to the pulmonary infection, was added a diagnosis of a probable tuberculous infection of the mesenteric lymph glands. This patient was running a daily temperature of 104°F., was eating little, and was a very sick boy.

As in the preceding case, hydrochloric acid, 1:1,500 was given, intravenously, every other day. In the following few weeks the temperature gradually subsided and, in the third week, there seemed to be a decrease in the size of the abdomen and it appeared not so tense. This fancied improvement I attributed to my own desire to witness this clinical change. When working with the white cells, this sort of check is necessary.

During the fifth week, I asked Dr. Burns to make a special visit with me to this case, in order that I might have his opinion. He very kindly did so, and found a large mass in the abdomen, which he thought was an infected omentum.

Nine weeks after beginning this plan of treatment the temperature was normal, the patient was growing stronger and the subsidence of the abdomen revealed a mass which seemed to be omentum. Injections of the colloidal mercury sulphide were started after two months of the hydrochloric acid solution.

When I saw this patient last, on the 30th of March, he was walking about the wards and porches, feeling well, and had increased in weight from 124 pounds, early in January, to 137 pounds.

Improvement in the other cases has been of a kind with the foregoing reports, save for a case of laryngeal infection, along with the pulmonary involvement. This patient was treated as were the others, but he died on the 29th of March.

Pellagra

I shall come from behind the "walls," back to the free outside, for the report of the concluding case.

Two years ago, in Texas, a man of 58 years began to show mental peculiarities. These mental changes were attended by alternate attacks of diarrhea and constipation and, from time to time, a soreness about the mouth, and again, after some time, a rash on his forearms and hands. These conditions grew worse, so that, in September, 1929, the patient was sent by his physician, Dr. J. T. Moore, of Cooledge, Texas, to the Scott White Clinic, Temple, Texas. Here, his mental depression, with the sore mouth, the diarrhea alternating with constipation, the dermatitis and the absence of free hydrochloric acid in the stomach, led to a diagnosis of probable pellagra. It was suggested that the patient be put on a high-vitamin diet, an abundance of milk, fruits, vegetables and cod-liver oil. Luminal (phenobarbital) was given for the nervousness, and close observasion ordered, to prevent the possibility of suicide.

These suggestions were carried out until the 10th of February, when the patient was brought to Birmingham. I saw him on the 15th of February, brought to my office by his brother.

I found a cadaverous man of 130 pounds weight, about six feet two inches in height, saturnine and silent, refusing to answer my questions. His forearms and hands showed the characteristic rash of pellagra; the urine was negative; throat, mouth and rectum were normal. While we were waiting for a report on the leukocyte count, he suddenly burst into a tale of "shame and lust and fraud" that would have given joy to Anne

of Austria. The diagnosis made in Texas was confirmed.

In looking over the history from Texas, two features attracted my attention: First, the white cell count was 9,500; second, there was no free hydrochloric in the stomach. My assistant reported a leukocyte count of 13,400 and a red cell count of 4,050,000. Here was a patient with delusional insanity, caused, apparently, by an infecting organism. According to all accepted standards, he had been extremely well cared for, but he was far from well.

My prognosis was based on my belief that the patient was the host of pathogenic bacteria, as shown by the white cell counts and the deficiency of the acid in the stomach. In this prognosis, the brother was told that, within a week, he would see, in his brother, more clinical changes than had been observed for many months; that the cod-liver oil was to be continued; that the diet was to be governed by the amount of meat, fish and fowl, along with fruits and vegetables, that the patient would eat; that, for the following three weeks, I wished to see the patient three times a week; and that he could give notice to the negro attendant that he would not be needed at the end of the week.

Intravenous injections—10 cc. of the 1:1,500 hydrochloric acid—were started and the stimulating effect on the white cells was seen in half an hour, when the white count was 15,000. Visits were made regularly, with an injection of the acid solution on each visit. The patient gained six pounds in weight and the mental condition had so cleared up, after the first seven days, that the negro observer was dispensed with. At the end of three weeks, the brother said the mental condition was normal. At this time, only occasional silver-like scales of epidermis might be seen on the arms.

At the end of the first month of treatment, I decided to change to the colloidal mercury sulphide, 3 cc. being given. On the next visit, the brother said, "Doctor, I have been much pleased in the remarkable change in my brother, but that 'black shot' you gave on the last visit is more potent than the white (HCl), because, on the evening after the last injection, I had my first long, connected talk with the patient." Since this time, the colloidal mercury only has been used, twice a week. The patient's appearance, weight (146 pounds) and conversation this moring (the 8th of April), leave me in no doubt of his ultimate complete recovery and return to his normal weight 180 pounds.

Histories of the clinical changes in syphilis, gonorrhea, osteomyelitis, colitis, ulcers of the pylorus and legs, all treated solely by the stimulation of the white cells and the usual directions for diet and elimination, during the past winter, would make this paper unduly long. Suffice it to say, that these experiences have convinced me beyond doubt, that Metchnikoff solved the riddle of the ages, when he made the generalization, "The one constant element in resistance is phagocytosis."

In conclusion, I believe that the great problem of the future will be to find better agents for the control of the white cells in the treatment of infective diseases, for Metchnikoff's conclusion will be as true in a thousand years as it was the day he wrote it.

Comer Bldg.

The Doctor Who Depends Upon His Memory

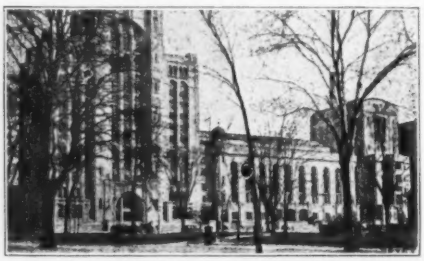
Many doctors keep sufficient records of their patients and of the advice given on calls, but these records are not used when the patient repeats calls. The doctor depends upon his memory.

To ask a patient whether you have seen him before and what advice you gave, looks like neglect and lack of interest and that patient is likely to consult another doctor who keeps track of him.—Hall Johnson, *in* Med. Economics, *Sept., 1929.*

The A.M.A. Meeting, 1930

By George B. Lake, M.D., *Chicago*

THE annual meeting of the American Medical Association (this year's session was the eighty-first) is no longer merely a convocation of the country's greatest medical organization, but a gathering of the members of a number of different societies, interested in various branches or phases of Medicine, so that it becomes, more and more, the



Masonic Temple, Detroit

clearing house for the medical opinion of the nation. The attendance at this session, at Detroit, Mich., was 5,016.

This year, the Association for the Study of the Internal Secretions, the American Medical Editors' and Authors' Association, the American College of Radiology, the Women's Auxiliary of the A.M.A., the American Heart Association, the Association for Research in Ophthalmology, and several other groups held meetings, in addition to various alumni and fraternity reunions and dinners. Several special and informal conferences were also held, notably one, organized by Dr. Hiram Byrd, of Detroit, on the present status of the work with the sphenopalatine ganglion.

The physicians of Detroit and Wayne county are cordial hosts to the members of the various professional bodies which congregate there, and the program of entertainments for members and their ladies was unusually varied and interesting, including the annual tournament of the American Medical Golfing Association (won by Dr. J. P. Louden, of Yakima, Wash.), daily trips through the Ford industries plant and Greenfield Village, special plays in the Detroit civic theatre, the annual President's reception and ball (which was the best party of the kind in years) and a delightful boatride on the Detroit River and Lakes Erie and St. Clair, with luncheon served on the boat.

The Scientific Exhibit

The arrangement of the scientific exhibit this year was the best I have ever seen and much credit is due to Dr. Paul N. Leech, who engineered it.

The awards in Class I (individual investigations) were: Gold medal to Dr. R. R. Spencer, U. S. Public Health Service, for preparation of a vaccine for Rocky Mountain spotted fever; silver medal to Drs. William Duane, Jr., and Rubin M.

Masonic Temple Auditorium, Detroit

Lewis, University of Pennsylvania Medical School, for a method of estimating physiologic pressures; bronze medal to Drs. Cyrus S. Sturgis and Raphael Isaacs, Simpson Memorial Institute for Medical Research, University of Michigan, for original work on the diagnosis and treatment of pernicious anemia.

In Class II (purely experimental studies), the gold medal went to Drs. F. G. Novy, M. H. Soule and P. B. Hadley, of the University of Michigan, for studies in the respiration and dissociation of microorganisms; the silver medal to Dr. Russell S. Rowland, Harper Hospital, Detroit, for studies in lipoid metabolism; and the bronze medal to Drs. V. W. Archer and C. H. Peterson, University of Virginia Hospital, for original studies on intestinal ascariasis.

A special certificate was awarded to Otto Glasser for an extremely interesting exhibit portraying the early history of the x-rays, including photographs outlining the life of Roentgen, copies of some of the earliest roentgenograms, advertisements and books on the subject, and contemporaneous cartoons showing the public's reaction to the new discovery. Such a collection brings home to one forcibly the immense progress that has been made along this line in the thirty-four years since its inception.

Among the many other interesting features were a didactic and clinical exhibit of the treatment of varicose veins by the injection method; an elaborate apparatus for mechanical artificial respiration (shown by the Harvard School of Public Health); a moving picture, with associated diagrams and preparations, showing the technic of cisternal puncture (demonstrated by Dr. H. C. Saunders, of New York); and many others.

Dr. Joseph B. De Lee's remarkable talking picture of a cesarean section was shown twice during the meeting.

This seems to be the place to mention the spirited discussions of **Uroselectan,** the new organic iodine compound for use in **intravenous urography,** which took place in the sections on urology and radiology and were participated in by Dr. M. Swick, of New York, who did the original clinical work, and by Profs. Binz and Lichwitz, who seem to have come from Germany to protect their rival claims to priority in its discovery.

This drug is injected, intravenously, in doses of 40, 50 or even 60 Gm., in a 40-percent solution. Reactions are neither common nor severe. It is contraindicated in uremia. Roentgenograms are made 15, 35 and 60 minutes after the injection and give shadows almost as strong as those seen after cystoscopic pyelography. Moreover, they give indications of functional, as well as anatomic, disturbances of the urinary organs.

The Technical Exhibit

The show put on by the various commercial houses supplying the many and complex needs of the medical profession seems to grow larger and more instructive every year. In the Masonic Temple it was distributed in several rooms and corridors, so that one must make a real pilgrimage to see it all.

Among the most striking exhibits was the triple booth of Mead, Johnson and Co., paneled in dark walnut, in which was shown the unique collection of nursing bottles, collected by Dr. J. G. H. Drake, of the University of Toronto, covering all lands and dating back to the year 300 A. D.

The A. S. Aloe Co. showed a line of proctologic speculums with *wedge-shaped* obturators, which appear to meet physiologic requirements better than the round obturators.

Sharp and Smith were featuring a simple, self-retaining occluder for use in injecting varicose veins, and a line of metal wound clips with *wings,* to facilitate their removal.

Becton, Dickinson and Co., are making a new type of compact and efficient apparatus for determining vital capacity and circulatory efficiency, which bids fair to be an essential part of every physician's equipment.

An apparatus was exhibited for the first time, whose purpose is to apply radiations ranging from the yellow rays of the visible spectrum to ultraviolet rays of 1900 Angstrom units to the accessible cavities of the body, by means of a quartz tube containing mercury vapor, attached to a generator operating at high voltage and low amperage. This is known as the Cold Quartz Lamp, and its physical properties warrant the name.

It really is unfair to single out a few of the many important and instructive exhibits for special mention, but these were some of the *new* things that especially struck me, in the whirl of fascinating displays.

The House of Delegates

In the house of delegates, the active business-end of the Association, a number of important matters were threshed out and resolutions were presented condemning the present requirement of the liquor law, which compels the physician to state on prescriptions for alcoholic liquors the condition for which they are prescribed, as being a violation of the ancient law of professional secrecy and privileged communications.

Resolutions were also offered to establish the American Medical Association as "the proper organization in this country to standardize hospitals"; to arrange for a committee on legislative activities; to exercise control over the

broadcasting of false and misleading pseudo-medical statements; and various other matters of moment.

After a spirited contest for the presidency of the Association, between two southern members, Dr. Edward Starr Judd, of the Mayo Clinic, was chosen, by a margin of one vote, as president-elect. Dr. Hirschman, of Detroit, was elected vice-president. Philadelphia was selected as the place for the 1931 meeting.

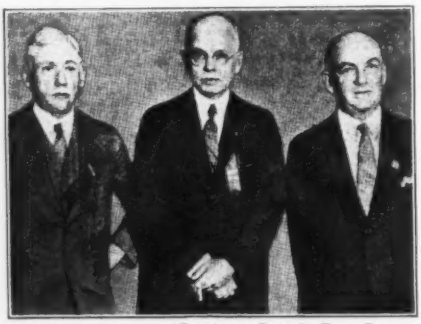
The President's Address

By William Gerry Morgan, M. D., Washington, D. C.

The presidential address dealt chiefly with the abuses of medical charity and the sale of the services of physicians, and was ably and pointedly summed up as follows:

1. — The physician is no more obligated to provide for the care of the indigent sick than is his fellow citizen.

2.—In mutual charitable undertakings for the care of the sick, each citizen contributes what he has; the laymen, physical necessities; the physician, professional skill. But each has a right to protect himself from exploitation and to judge of the merit of the recipients of his bounty.



Courtesy, *Detroit Free Press*

Left to right: Dr. Malcolm L. Harris, retiring president; Dr. William Gerry Morgan, acting president; and Dr. Edward Starr Judd, president-elect.

3.—When a hospital offers its facilities to a mixed clientele, pay, part pay and pauper, the distinction between the sources of those facilities should be clearly recognized. The physical equipment and service is of general public origin, and its uses may be sold or given away in the discretion of lay boards; but the professional facilities are, and always must be, the contribution of the medical staff as individuals and cannot become, in any sense, the property of the institution.

4.—When a hospital is owned and operated by the government and supported by taxation, to which the medical profession contributes its due proportion, medical attendance should be paid for by taxation, along with all other facilities supplied by the institution.

5.—No hospital, instituted and supported by public philanthropy or community cooperation of any kind, should be permitted to increase its revenues and so reduce its financial burden on the public, by any system of collecting fees for medical attendance, and thus engaging in the corporate practice of medicine.

6.—The membership of the Association should be guided by these principles in accepting posts on the staff of hospitals, and should refuse to support, by the contribution of their services or by the references of their patients, any institution violating them.

The Sphenopalatine Conference

A number of men have been following up the work on the sphenopalatine ganglion, initiated by Dr. Greenfield Sluder, and Dr. Hiram Byrd, of Detroit, has, perhaps, carried it further than any of the others and has developed an hypothesis to explain some of the surprising phenomena which have been reported (see CLIN. MED. AND SURG., Feb., 1930, page 95).

An informal dinner-conference on this subject was held at the Detroit Yacht Club on June 25, sponsored by Dr. Byrd and Dr. Munson, of the Jefferson Clinic, Detroit, at which about thirty men interested in this investigation were present, including Dr. John F. Barnhill, of Indianapolis; Dr. Joseph D. Heitger, of Louisville; and Dr. Robert H. Fraser, of Battle Creek.

The greatest conservatism was urged in investigating the claims of some of the workers along this line and in presenting the matter to the medical profession, and a committee was appointed to study and coordinate the literature now available and to formulate profitable outlines of future investigations.

American Medical Editors' and Authors' Association

The American Medical Editors' Association is an organization with a history going back more than half a century, but it had fallen into desuetude and no meeting had been held for several years.

Recently it has been rehabilitated, through the able efforts of Dr. H. Lyons Hunt, of New York, its president, and has been strengthened by the admission to membership of medical publishers and authors.

This, the first meeting on the new basis, consisted of a morning and afternoon session, with a luncheon between, at the Book-Cadillac Hotel, and was a success. Reports of a number of committees were read and several papers, dealing with the problems of editors and authors, were presented.

Dr. Anthony Bassler, of New York, urged the appointment of a Secretary of Public Health in the President's Cabinet, to coordinate all the various government health activities, public and private, under one responsible head. A resolution to this effect was adopted.

Dr. George B. Lake, of Chicago, urged a more careful study of the Code of Medical Ethics by all physicians, and suggested that it might be profitably altered so as to define the financial relationship between the family physician and the consultant (especially the surgeon) more clearly, so as to obviate the evils of fee splitting, and so as to make the sections dealing with advertising by physicians, more conformable to modern conditions.

He further recommended that the practice, by physicians, of giving their services free to clinics, operated by medical men or laymen and offering free or cheap service to persons able to pay a reasonable fee, be declared unethical.

So far, the Code has operated almost entirely to protect the patient. The speaker felt that it is time that some sections be altered or added, looking toward the protection of the doctor, himself.

Here follow abstracts of several of the papers read before the various sections of the American Medical Association and before the American Association for the study of the Internal Secretions.

Pituitary Preparations in Complications of Diphtheria

By John E. Gordon, M.D., Detroit

In Detroit the death rate of diphtheria is 12 to 14 percent, fatalities being due to laryngeal involvement, toxemia and heart failure.

There are two peaks of mortality: One on the third or fourth day; the other on the twelfth to fourteenth day. The former is due to laryngeal complications; the latter to early or late heart failure, primary or during convalescence.

In the *early* cases, the temperature is moderately high; the pulse rapid; the heart sounds clear; the blood pressure normal.

In *late* cases the temperature is normal or subnormal; vomiting occurs; the pulse is slow; the heart sounds are muffled; the blood pressure is low. In fact, the clinical picture resembles that of *surgical shock*.

In these late cases it is well to give dextrose intravenously and, in toxic cases, to add one to two units of insulin to each gram of the sugar, to insure that it will be burned. **Pitressin** has been helpful, in many instances.

Some progress has been made in the management of the early cases, but success depends upon a knowledge of their mechanism. The failure is not of direct cardiac origin, *digitalis is contraindicated* and other heart tonics are worthless.

Preventing Congenital Syphilis

By Charles C. Dennie, M.D., Kansas City, Mo.

A syphilitic mother, if treated vigorously with neoarsphenamine before the third or fourth month of pregnancy, can give birth to a child with no stigmata of congenital syphilis. If she is treated at the sixth or seventh month, the child will show stigmata, but its Wassermann reaction will be negative at birth, though it may become positive at the fifth or sixth year.

Such a mother should receive from ten to sixteen doses of neoarsphenamine.

Discussion

Dr. Moore, Baltimore, Md.: In Denmark, all pregnant women are given a Wassermann test as a routine procedure, and all found positive are treated. The result is that there are not more than fifty or sixty congenitally syphilitic children in the whole country.

We use the Wassermann test routinely

in the clinic, but not upon private patients, and I have, in my own practice, forty congenitally syphilitic children in high-class families.

It is never too late to treat a pregnant syphilitic woman. Some good is accomplished, even when the neoarsphenamine is given at the eighth or ninth month.

Dr. McCord, Atlanta, Ga.: Congenital syphilis is due to disease in the *mother*, and we should start treating her as early as possible, giving 0.45 Gm. of neoarsphenamine every week, followed by mercury inunctions.

Ninety-three (93) percent of *untreated* syphilitic pregnant women will give birth to syphilitic children. If they receive three or four treatments, the percentage falls to 35. If seven or eight treatments are given, there are but 9 percent of infected children.

Dr. Joseph W. Shaw, Ann Arbor, Mich.: In the Ann Arbor Clinic we are treating these women with arsphenamine and bismuth, beginning as soon as the disease is discovered and continuing until the child is born.

If the case is early (within a few years of infection), we repeat the treatment in subsequent pregnancies. In late cases, the management depends upon individual indications.

Organic Arsenicals in Cerebrospinal Syphilis

By George W. Raiziss, Ph.D., and M. Severac, M.D., Philadelphia, Pa.

We now know of no drug which will act upon syphilis of the nervous system with the same certainty with which the arsphenamines act in general syphilis.

In animal experiments, extending over several years, certain pentavalent arsenic compounds, especially those related to arsanilic acid, have been found promising.

Atolyx is effective, but toxic. Tryparsamide has given some good clinical results. In our experiments, *acetarsone*, in doses of 100 mgm. per kilo of body weight, destroyed spirochetes in the cerebrospinal system of rabbits more effectively than did tryparsamide. This does not, however, necessarily prove that it would be the best compound for use in clinical practice.

Discussion

Dr. John H. Stokes, Philadelphia, Pa.: The pentavalent arsenicals are not strongly spirochetocidal, but they do have some definite effect upon the tissues or the body resistance. They are not substitutes for the arsphenamines where these organisms are to be killed promptly and positively, as in general syphilis.

An Appraisal of Bismarsen

By Drs. John H. Stokes, T. H. Miller and H. Beerman, Philadelphia, Pa.

The studies here reported are based on 7,666 injections of Bismarsen (bismuth arsphenamine sulphonate), in 341 cases, over a period of five years.

Bismarsen is a rational drug, relatively non-toxic and easily given, *intramuscularly only*. Doses should be repeated every 1 to 3 days. One hundred (100) injections may be given, with no bad results. Local reactions occur in 2 percent of cases, and general reactions in one-half of one percent.

It is a valuable drug in patients who react severely to other arsenicals, though it is somewhat slow in relieving symptoms and reversing the blood tests. Recurrences are rare, the results being better than, or as good as, those obtained by other methods of treatment. Marked *tonic* effects are often seen.

Fewer injections are needed when they are given *without intermissions*, beginning with 25 mgm. every two or three days and increasing to 100 to 200 mgm. every seven days. Forty or more injections should be given.

Bismarsen acts best in early cases and in cardiovascular (aortic) syphilis, where it seems to be the only drug needed. If given early, it appears to protect against neurosyphilis. Symptomatic relief in tabes is fairly good.

All injections should be followed by massage and hot applications to the site of injection, in order to minimize local reactions.

Bismarsen is the safest and simplest antisyphilitic drug for use by general practitioners.

Anterior Pituitary Hormone in Delayed Menstruation

By Chas. H. Lawrence, M.D., Boston, Mass.

Abnormalities of the menstrual flow and rhythm, in adolescent girls, are due to functional disturbances (subnormal development of the reproductive organs) more often than to pelvic disease and are likely to interfere with fertility in adult life.

If menstruation is only slightly delayed, no active steps need be taken; but if this

function is not normal by the sixteenth year, something must be done about it.

Focal infections, lack of protein in the diet and deficiency of the secretion of the anterior pituitary are the commonest causes of delayed menstruation, and the oral administration of this hormone in adequate dosage, when its insufficiency can be demonstrated, has given encouraging results—better than those from ovarian medication.

Until a physiologic standard for the anterior pituitary hormone is developed, we must depend upon clinical results in estimating the value of this preparation.

Non-Specific Treatment of Pneumonia

By O. W. Bethea, M.D., New Orleans, La.

We must not become overenthusiastic about specific treatments in pneumonia and abandon the tried non-specific methods, which still show excellent results. For years, the deathrate in this disease has been approximately 40 percent; but a group of 50 cases, treated intelligently, actively and meticulously by non-specific methods, showed only 5 deaths (10 percent).

The scheme of treatment adopted must not be ironclad, but must be varied to fit individual indications.

Absolute *mental and physical rest* is a prime essential, with a modified fresh air treatment—no drafts nor extreme cold.

Sodium citrate is given, in 40-grain (2.6 Gm.) doses, every 4 hours, and aromatic spirits of ammonia, 4 cc. every 2 or 3 hours, when the patient is awake; digitalis only if specifically indicated; ½ to 1 ounce (15 to 30 cc.) of mineral oil each night; castor oil in the morning, if a purgative is needed.

A daily bath is given and the hygiene of the mouth is carefully maintained. An ice bag to the head is used if the temperature goes above 102°F. Nothing should be permitted to restrict the respiratory movements of the chest.

The diet should consist chiefly of strained soups and fruit juices reenforced with milk sugar (or dextrose may be given intravenously—Stoner).

One of the main points in this method is that, after the examination which establishes the diagnosis, the patient should never be disturbed unless there is some definite necessity for it. Meddlesome examinations interfere with the all-important rest and should be eliminated.

Rest, elimination, hygienic attention, freedom of the chest, a high-carbohydrate, low-protein diet and mild systemic alkalinization are the key-notes.

Pupillary Reactions in Diagnosing Pregnancy

By Z. Bercovitz, M.D., Andong, Chosen (Korea)

When the serum of a pregnant woman is instilled into her own eye there is a change in the size of the pupil. The pupil of the eye not treated is used as a control.

The simplified technic is as follows: One drop of 10 percent sodium citrate is mixed with 5 or 6 drops of blood from the finger and instilled into one eye. A positive reaction is either a dilatation or a contraction of the pupil, as compared with the control. The technic requires about two minutes and the reaction lasts for about five minutes.

Of 69 women studied by a co-worker, 57 showed positive reactions. Of 55 pregnant women observed by the author, 41 reacted positively. Of 12 women found to be pregnant, 10 showed positive pupillary reactions. Fifty (50) nonpregnant women and sixteen men all reacted negatively. Of 29 postpartum patients, 25 reacted negatively.

Prognosis

The clinician often fails to realize the degree of influence which prognosis may exert. This influence affects the patient favorably or unfavorably in exact proportion to what he believes that the physician thinks. A chance word may appear to have a profound significance, which is then transformed into terms of emotional and functional readjustment.—Dr. James D. Heard, in J.A.M.A., May 31, 1930.

Anorectal Abscess

By William A. Hinckle, M.D., *Peoria, Illinois*

ABSCESSES in the anorectal region, because of their frequent occurrence and the unfortunate sequel that so often results, deserve more attention than they usually receive. Nearly all anorectal fistulas are the result of such abscesses. By early and proper attention this complication can usually be avoided.

Infection, with resultant abscess formation, is particularly apt to occur in this area, because of the large amount of fat and cellular tissue, the unusual liability to trauma and irritation and the microorganisms constantly present

The simplest and most practical classification of anorectal abscesses is according to their location, either above or below the pelvic diaphram — the levator ani muscle. The former (pelvirectal, or deep abscesses) are comparatively rare. When they do occur the diagnosis is more difficult, the treatment more complicated and the results often less satisfactory than when the seat of the trouble is below the levator ani.

Abscesses below the pelvic diaphram are much more frequent and seldom result seriously, if properly treated. According to location, this variety may be sub-divided into three types: the subcutaneous, which is located superficially, beneath the perianal skin; the submucous, which is between the mucosa and muscular coats of the anorectal canal; and the ischio-rectal, which is located deeper in the ischiorectal spaces.

Like all other abscesses, those in the anorectal area are due to infection. This may take place through the hair follicles, the sebaceous glands, or through abrasions of the skin. More often the point of entrance is some break in the mucosa of the rectum or anal canal. Sometimes the infection is blood-borne. In the pelvirectal type, the infection may originate in the bladder, prostate or seminal vesicles, in the male, or in the broad ligaments, in the female.

The microorganisms most often present are streptococci, staphylococci and *Bacillus coli*. These are usually associated. A pure culture of any one of these is not found. Which one is the primary infection, has not been determined. The tubercle bacillus is not uncommon. It may be primary or secondary to some other focus of infection in the body. The old notion that most anorectal abscesses are tuberculous is no longer tenable.

Symptoms

Subjective symptoms of anorectal abscesses are similar to those of abscesses in other parts of the body. The temperature may be only slightly elevated, or it may be high. Toxic symptoms may be slight or marked. Owing to the abundant nerve supply in the affected area, pain is usually decidedly severe.

Objective symptoms will vary with the location of the trouble. In the pelvirectal type, owing to the intervening levator ani muscle, there may be no external or visible signs or symptoms. The palpating finger in the rectum may detect swelling or fluctuation through the mucosa and muscular walls. The submucous type can likewise be palpated through the rectal mucosa. In the perianal and ischiorectal varieties, the usual signs of redness, tenderness, swelling and fluctuation may be observed.

Tuberculous abscesses develop more slowly and present fewer subjective and objective symptoms.

If permitted to run their course, these abscesses usually develop rapidly and often result in much destruction of tissue and irreparable damage. Spontaneous resolution never takes place. Those cases that occasionally seem to resolve will be found to have ruptured and drained through the anorectal canal.

If located above the levator ani, the abscess follows the line of least resistance and will usually break into the abdominal cavity. Sometimes it opens into the bladder or rectum. Occasionally one will break through the pelvic diaphram and involve the ischiorectal areas also.

Submucous abscesses will usually break through the rectal mucosa into the rectum or anal canal. At times they burrow out between the sphincters into the perianal tissues or undermine the lining of the anal canal and point beneath the adjacent skin.

The superficial or subcutaneous variety will usually break through the adjacent skin. Sometimes, if situated on the anal margin, they may burrow up under the mucocutaneous lining and break into the canal.

The ischiorectal type may break through the perianal skin or may burrow between the sphincters into the anorectal canal. The tendency of some of these abscesses to burrow into the anorectal canal is the principal cause of anorectal fistula.

Treatment

A knowledge of the anatomy of this area, together with an understanding of the developmental tendencies of anorectal abscesses, is necessary to a rational and successful treatment.

As resolution without suppuration is not to be expected, free and early drainage is the only method to be pursued. Poulticing to promote drainage and suppuration or waiting for fluctuation to develop is not to be considered. Every hour of procrastination permits the spread of the infection, promotes tissue destruction, prolongs pain and convalescence and increases the liability to a complicating fistula.

Only a very small or superficial abscess should be opened without some sort of anesthesia. Even what seems to be a trifling affair may prove to be more complicated and require more radical operative procedure than seemed necessary. A local anesthetic of 2-percent procaine solution, slowly and carefully infiltrated along the proposed line of incision, will answer in many cases. In the more complicated and deeper infections, and in all cases where the abscess is above the levator ani, a general anesthetic is imperative.

A pelvirectal abscess should always be opened through the perianal and perirectal tissues; never through the rectum. If opened into the rectum or permitted to break through the rectal wall, an internal fistula will result that is difficult to cure and is a menace to the life and health of the patient. A lateral or posterior incision, with the finger in the rectum as a guide, should be cautiously advanced until pus is found. The incision should then be enlarged by severing the intervening fibers of the levator ani and adjacent tissues. Stretching the fibers of the muscle is not sufficient as they will soon retract and interfere with drainage.

Submucous abscesses are the only ones that should be incised and drained through the rectum. In this variety, free incision through the mucosa to the most dependent part will usually result in speedy relief and a permanent cure.

Perianal and ischiorectal abscesses should be opened through the proximal cutaneous area. Even should they break and drain through the anal canal, as they often do, such drainage will be inadequate and will ultimately result in a fistula unless free drainage be made through the cutaneous area.

Wherever situated, as soon as the abscess can be located it should be incised freely. A puncture or small incision will not answer. A good rule to observe is to make the incision longer than the width of the area to be drained. An incision two or even three inches long is not too much for the average ischiorectal abscess. If only a small opening is made, drainage will be inadequate and the opening will tend to close before the cavity is filled in. Any back pressure will delay healing and tend to increase the probability of a fistulous opening in the anorectal canal. The inexperienced operator usually finds that the incision he believed to be larger than necessary is entirely too small within a few days.

While all proctologists agree that very free drainage is necessary, they do not all agree as to the best type of incision. Some prefer an incision radiating from the anus like a spoke of a wheel. Such an opening is more difficult to keep open. A lateral incision, running parallel with the anus, gives less trouble in this respect and is more in favor with rectal surgeons. Others prefer the T-shaped incision, produced by making a second cut at right angles to the center of the first. Such an opening does not close so readily as does a single, straight incision. The circular incision is much in favor with some. A plug one inch or more in diameter is removed, down to the cavity. This type of opening gives adequate drainage, is less inclined to close, and will heal with a minimum of scar formation by the time the cavity is obliterated. A tuberculous abscess is better opened with a cautery knife.

Whatever type of opening is made, it should extend close to the sphincter muscle. This will simplify any later operative procedure for anorectal fistulas that may become necessary.

A careful exploration of the abscess cavity with the finger, following incision, is advisable. Any pockets or bands should be gently broken down. The cavity may be swabbed with any desired antiseptic, but should not be packed. A gauze wick or drainage tube may be used, though, if the opening is sufficiently large, this may not be necessary. Irrigations and repeated manipulations are not indicated.

Heat, especially in the form of the hot sitz bath, two or three times daily, produces decided relief and benefit. Unless the general condition of the patient demands it, confinement in bed is not necessary. A reasonable amount of exercise is conducive to rapid convalescence.

The treatment of tuberculous abscess does not differ materially from the above, except that such attention as ministers to the general upbuilding of the patient is imperative. In such cases, recovery is much less rapid.

Before the incision is permitted to close, a careful examination, with probe and colored injections, should be made to determine, if possible, if there is a fistulous tract connecting with the anorectal canal. If such a fistula is found, it should be taken care of before the case is discharged. A recurrent anorectal abscess means that it has been permitted to heal over, with some focus of infection still remaining. This focus will usually be found in a fistulous tract connecting with the anorectal canal.

Every anorectal abscess is a potential fistula and should be treated as such. To incise and neglect is to invite future trouble. Free incision and unobstructed drainage are the secrets of success.

Jefferson Bldg.

Pyorrhea and the Physician

By R. Allen Griffith, D.D.S., *Chicago, Ill.*

SOME days ago a patient who had been taking treatment for pyorrhea from an osteopath came into my office. That a physician can very well fit into the picture, in cooperation with a dentist, is easy to understand; but how an osteopath could fit in is beyond comprehension, unless he happened to be one of those tough-fingered individuals who extract pyorrheic teeth with the digits.

In a way, there is little wonder that the physician, the osteopath, or even the midwife, should attempt to treat pyorrhea, when we consider the manner in which it has been neglected by the dental profession as a whole.

By pyorrhea is meant any degenerative change in the investment tissues surrounding the teeth, excepting such as scurvy, poisoning of any kind and Vincent's infection.

The dental profession has but two diseases to deal with: Pyorrhea or the results of pyorrhea, and caries or the results of caries, and yet it has almost completely neglected the treatment of the former, except with the forceps. Many of them pass it by with the remark that it is incurable, while the fact is that it is curable, except in the last stages. Where one-third of the bony process surrounding the teeth is left, most of them can be saved; and one natural tooth is worth many artificial ones.

A Focus of Infection

The etiology of most cases of pyorrhea is comparatively simple; occasionally it is more or less complex. Briefly, the most common causes are: Uncleanliness and calcareous deposits, due to lack of care on the part of the patient; overhanging fillings and poorly fitting crowns and bridgework, due to lack of care on the part of the dentist; and traumatic occlusion, due to irregular teeth or to irregular wear on the teeth. It may also be due to faulty diet, under which may be listed calcium deficiency and diseased or impaired saliva or to some general systemic infection.

Let us also note that parasitic infection always accompanies every case of pyorrhea, from the minutest beginning until the teeth are exfoliated; and that it is *infection*, with all the dangers of metastatic

lesions in distant parts of the body. Without question, pyorrhea is as important, from the standpoint of focal infection, as is alveolar abscess. Tons of paper have been used in describing the dangers of "dead teeth," but very little on the dangers of pyorrhea.

Where pus is constantly discharged into the mouth by the suppurating processes surrounding the teeth, general systemic poisoning must follow, through absorption by the blood and lymph capillaries which penetrate the tissues. The evidence of infection by continuity of surface rests on an even firmer clinical basis. The air we breathe and the food we swallow must carry millions of micro-organisms into the lungs, stomach and intestines. A common mouth leptothrix has been found in the cerebro-spinal fluid. Fuso-spirillary infection of the lungs is sometimes reported in medical literature. Turner, of London, suggests that the *Streptococcus fecalis* is but a descendant of the *Streptococcus viridans*, commonly found in the mouth. How could this organism enter the bowel except by continuity of surface through the mouth?

Smithies, in a microscopic examination of the gastric extracts from 2,406 different individuals with "stomach complaint"—indigestion, dyspepsia and the like—showed that, irrespective of the degree of acidity, bacteria were present in 87 percent of them. Morphologically, cocci and diplococci were present in 83 percent; short and long rods, often of the colon group, in 58; typical streptococci and staphylococci in 17; and *Leptothrix buccalis* in 24 percent. In 54 cultural studies of saliva from "dyspeptic" patients, streptococci and staphylococci were demonstrated in over 80 percent; bacilli in 66; and *Leptothrix buccalis* in more than 14 percent. Comparing these various figures, it would appear that the common forms of pus-producing organisms (streptococci and staphylococci) have their proliferation retarded by gastric juice; but the bacilli, often of the colon group, as well as the *Leptothrix buccalis*, thrive in the stomach.

From the above it is readily seen that the treatment of pyorrhea may mean much to the physician; and Dr. Mayo lists over twenty diseases that manifest symptoms in the mouth. In some of these diseases, a timely suggestion from the dentist, regarding the advisability of a thorough examination by a physician, may mean, possibly life, to the patient.

Speaking of the interdependence of medicine and dentistry is like speaking of the interdependence of medicine and surgery, or the interdependence of medicine and obstetrics. The practice of medicine includes dentistry, and dentistry is the practice of a special branch of medicine, as is ophthalmology.

It may be going too far to say that all dentists should be compelled to take a medical degree, but certainly all dentists should know much about the practice of medicine; and, on the other hand, all physicians should know more about dentistry, its importance and its possibilities.

Mechanism and Treatment

We have seen that calcareous deposits, uncleanliness and traumatic occlusion are the principal, predisposing causes of pyorrhea, therefore, the first procedure in treating the disease is to remove these causes. Careful scaling and polishing must always be the first procedure in treating all cases of pyorrhea. Unless every particle of deposit is removed, in every case, no result can possibly be expected, no matter what form of treatment may be used. The smallest particle of deposit is just as much of an irritant as a splinter left in a finger and, like the splinter, it can only be removed with an instrument. No drug has been discovered that will dissolve tartar, that will not also dissolve the tooth.

In traumatic occlusion we have a movement of the tooth every time the teeth are closed, and no tooth can ever be expected to become tight again unless this movement is stopped. When any tooth is moved in its socket every time the teeth are closed, the process surrounding the tooth is absorbed and a pocket is formed.

Uncleanliness and calcareous deposits go hand in hand, to some extent, consequently we must get at the cause of these deposits. The mucin of the saliva is a viscid, sticky substance, that, under certain conditions, adheres to the teeth; the gluten from the cereal grains also sticks to the teeth and can only be removed, by nature, through fermentation and putrefaction. When these substances adhere to the teeth, the calcareous matter in the saliva becomes incorporated in these plaques, forming a hard deposit that adheres to the teeth like concrete. Food particles lodge on and around these deposits and ferment, with the consequent proliferation of micro-organisms. The pressure of the deposits

on the epithelial lining of the surrounding tissues causes their absorption by pressure atrophy, exposing the blood and lymph capillaries; inflammation starts around the margins and the weak spots break down, forming pockets, sometimes almost to the apices of the teeth; inflamed tissue and pus form a cheesy mass in the pocket, which become impregnated with calcareous substances of the blood to form a thin, dense layer of dark-colored tartar that may be almost as hard as the tooth itself. The removal of these deposits from narrow, tortuous pockets requires very fine, sharp instruments and as delicate technic as eye or brain surgery. If the smallest particle is left it will form a focus of infection that will prevent the pocket from healing.

The third step, which is sometimes the hardest part of all, is to secure the cooperation of the patient in keeping the teeth clean. Unless the patient can be prevailed upon to do his part, no result will be obtained. Careful scaling and polishing, together with the cooperation of the patient in keeping the teeth clean, will cure most cases of pyorrhea, and this is the generally accepted method of treatment.

However, there are many cases of pyorrhea that do not respond to this treatment and we must go further, or possibly go back a little, and look into the causes of calcareous deposits. We find that, where the hydrogen ion concentration is greater than pH7, very little or no tartar is formed on the teeth and that these individuals have very little pyorrhea or caries. Where it is below pH7 we find both pyorrhea and caries. In other words, one of the major predisposing causes of pyorrhea and caries may be acidosis. Where we find a decidedly acid saliva we find a great calcium loss through the mouth, and where we find a lowered acidity of the urine we find a loss of calcium through the urine. An alkaline saliva tends to conserve the loss of calcium through the mouth and an acid urine tends to conserve the loss of calcium through the urine.

In all cases of chronic caries and pyorrhea, it is desirable to have both the saliva and the urine tested for their hydrogen ion concentration and calcium content. The diet should be looked into thoroughly. The patient will always listen to the physician, in preference to the dentist, when it comes to diet. Diet is largely a matter of habit and habits are hard to change. The diet of the average American family, while possibly deficient in many respects, answers the requirements of the average individual very well. The majority of cases of malnutrition that come to the attention of the physician and dentist are not due, as a rule, to lack of proper food, but rather to a lack of assimilation, principally of the mineral salts, usually calcium and phosphorus.

Calcium and Phosphorus

Where the loss of calcium is greater than the intake, the teeth and the bone surrounding the teeth are the first of the bony structures of the body to suffer, for the simple reason that the gum tissue is the most vascular tissue in the human body. Calcium is best supplied to the system by means of diet, and it is well known that ultraviolet rays or cod-liver oil promote the assimilation of calcium from the intestine. Also, the relation of calcium and phosphorus in the diet is important in determining the fixation of either element. Large amounts of calcium in the diet tend to increase the total absorption of calcium, but diminish the amount of phosphorus absorbed. That this is, in a measure, mechanical, is shown by the fact that the phosphorus is excreted by the bowel and not by the kidneys. Large amounts of phosphorus in the diet tend to raise the blood phosphorus, but increase the loss of calcium in the feces. Hence, if bone is to be nourished, the ratio of calcium to phosphorus must be in proper proportion and an activator must be used, otherwise they will be eliminated unabsorbed.

Cereals and the Saliva

Both Dr. Harold F. Hawkins, of the University of Southern California, and Dr. Joseph Turner, of London, England, claim that crude gluten, especially the gluten from cereal grains, causes most tooth decay and pyorrhea. When cereal gluten packs into the interdental spaces around the teeth, the inevitable result is fermentation and putrefaction, and the products of this decomposition are either absorbed into the lymph and blood streams or swallowed. These products of fermentation are capable of producing caries, pyorrhea and intestinal diseases.

According to Dr. Hawkins, the factors which produce an acid saliva are:

1.—Consumption of a high-cereal diet.

2.—An acute and pronounced chronic infection.

3.—Pregnancy often gives rise to this condition.

He notes that, in a high percentage of cases, when the cereal intake is extremely high the urine becomes alkaline and the saliva acid. When the cereals are removed from the diet, with little or no other change, the urine becomes acid and the saliva, probably, alkaline. He has found no other article of food besides the cereal grains that is able to force the saliva to become more acid than the urine.

The following cases are taken from Dr. Hawkins' table:

	Saliva	*Urine*
HIGH CEREAL DIET	pH 6.1	pH 8.1
CEREALS REMOVED FOR TEN WEEKS	pH 7.1	pH 5.6
CHRONIC ALVEOLAR ABSCESS	pH 6.7	pH 7.1
A FEW WEEKS AFTER REMOVAL OF TOOTH	pH 7.9	pH 6.7
PREGNANCY (8½ MONTHS FROM CONCEPTION)	pH 6.6	pH 8.0
TWO MONTHS AFTER CHILD BIRTH	pH 7.5	pH 6.3

We, therefore, see the necessity for an analysis of both the saliva and the urine, for both their acidity and calcium content, in many cases.

VINCENT'S ORGANISM

Dr. Hawkins also claims that, in the research work done at the College of Dentistry of the University of Southern California, in studying the bacterial flora of the mouth in relation to pyorrhea, they found the incidence of Vincent's organism to be 100 percent. He claims that they have never found a case of either the inflammatory or anemic types of pyorrhea, accompanied by pronounced pus-pocket formation and bone absorption, in which they have not demonstrated Vincent's organisms. A small percentage of these cases showed, apparently, a pure culture. These organisms can develop acute attacks of Vincent's infection when the resistance of the individual is low.

These organisms grow best when the saliva is acid and tend to die out, in clean mouths, when the saliva becomes distinctly alkaline, but never where there are pockets, overhanging fillings or irregular teeth, for, in such locations, on account of the accumulation of fermenting food, they find a suitable environment and continue to persist.

Unclean mouths often tend to be positive even when the saliva is alkaline, the fermentable food around the gingival margins evidently furnishing the necessary acidity. In this residue we find a mixed flora, but always the Vincent's organisms. In such cases we find marked hypertrophy and inflammation of the gingival margins, when the saliva is acid. When the saliva becomes alkaline, the inflammation tends to disappear. It seems to be possible to have a fairly normal mucous membrane with quite a mass of fermentable food, if the saliva is distinctly alkaline, but practically never if the saliva is acid.

Caries and pyorrhea, including Vincent's infection, can be largely controlled by maintaining a highly alkaline saliva and a fairly acid urine. This may be accomplished:

1.—By maintaining a very low-cereal diet.

2.—By a strongly alkaline diet.

3.—By a generous intake of foods that are high in calcium.

4.—By foods containing vitamin D, sun baths or general body irradiation with ultraviolet rays.

While Vincent's infection, commonly known as "trench mouth," is not a new disease, it became common only during and since the World War, and is now a more or less common disease, occurring often in the average practice. Since Vincent described the organism bearing his name, much literature has been written on the subject and much has been learned in regard to its diagnosis and treatment.

True Vincent's angina is a very infectious disease, easily transferred from one individual to another. Epidemics of this disease are very common today and, due to this fact, eleven states in the United States have passed laws requiring a report by the practitioner treating the case.

As stated before, the Vincent's organisms are found in most, if not all, cases of pronounced pyorrhea; therefore, every case cannot be diagnosed as Vincent's infection merely because the microscopic examination shows these organisms.

In distinguishing a true case of Vincent's disease, both the clinical symptoms and the microscopic examination should be taken into consideration. The clinical symptoms are usually very pronounced, in advanced cases. There are general malaise, slight fever and fatigue. The mucous membrane surrounding the teeth is red, inflamed and bleeds easily. A very fetid odor usually accompanies the infection. A definite and common symptom is a greyish-white pseu-

domembrane, appearing in patches. It may cover the entire mouth and even extend to the posterior part of the throat. Due to the pseudomembrane, Vincent's angina has often been diagnosed and treated as diphtheria. A microscopic examination will quickly and accurately differentiate between the two diseases. This pseudomembrane can easily be removed with a blunt instrument, and, underneath, a much inflamed, bleeding tissue is found. The tissues of the mouth may be so sensitive, in some cases, that the patient can take nourishment only through a straw. Sometimes, even in mild cases, the teeth are tender to pressure.

Smears for examination are best taken from the interproximal spaces, below the gingival margin. A platinum loop should be forced hard enough into the interproximal space to draw a little blood, because the spirilla are found deep in the tissues and the fusiform bacillus on the surface. Both organisms must be found if the case is to be diagnosed as Vincent's disease.

The Vincent's spirochete is a spiral organism, having few undulations which are usually far apart. It is usually thicker in the center than at the ends. Under dark-field illumination it might be described as a snake, with a snake-like motion, to differentiate it from other mouth spirilla and the spirocheta pallidum, which spin on their axes. Four distinct varieties are frequently found in one smear.

The Vincent's spirochetes have been demonstrated on the meninges of the brain, the mucous membrane lining the intestinal tract, the peritoneum, the mucous membrane of the eye, nares, fauces and pillars of the tonsils, but it is more commonly found, in its incipiency, in the mouth.

While every case of Vincent's must show definite clinical symptoms, as mentioned before, yet any form of spirilla should be looked upon with suspicion. It is doubtful if any form of spirilla can be found in a healthy mouth. A microscopic examination should be made of every case of gingivitis, pyorrhea or suspected Vincent's stomatitis, and means should be taken to eradicate any forms of spirilla that may be found in the mouth.

The first step, then, in the treatment of pyorrhea is a thorough scaling and polishing of the teeth; the second step is to relieve traumatic occlusion; and the third step to secure the cooperation of the patient in keeping the teeth clean.

The treatment of Vincent's infection is quite different. The first step is to have the patient destroy the tooth brush and swab the gums with plain water or a mild alkaline solution every hour. Any medicament may be used by the dentist that clinical experience has proven useful. I use diathermy alone until most of the inflammation has disappeared. Diathermy is supposed to destroy the Vincent's organisms by means of heat; but there can be no question that it increases the circulation of the blood, and, consequently, phagocytosis. Diathermy can be applied effectively in the mouth only by means of the Perlman Polydentotherm, and the physician is more apt to be equipped for giving it than is the dentist.

25 E. Washington St.

Mental Hygiene

Mental hygiene implies good food, temperance in all things, systematic work, suitable exercise, education in useful lines, boy-scout activities, botanizing, walking (the automobile is used too much), establishing habits of self-control and respect for "mine and thine." These are all contributory to "mens sana in corpore sano." *The latter is idealistic—there is no such thing as a (perfectly) sound mind in a sound body (even a Roosevelt was near-sighted), but attainment, so far as possible, of the goal in view would mean much to the structure of civilization.*— C. B. Burr, M.D., *in "Practical Psychology and Psychiatry."*

The Genesis of Life

By A. B. Illievitz, M.Sc., M.D., C.M., *Montreal, Can.*

IN DISCUSSING so complex a subject as we have before us; namely, the birth and the causes that brought about the birth of life, one is inevitably thrown into the numerous phases of life, embracing the various branches of science, philosophy and art. To understand and to follow the history and evolution of both organic and inorganic matter, as well as to grasp the meaning of energy, both physical and socalled vital, the reader will be expected to have a general knowledge of mathematics, chemistry, physics, zoology, botany and geology.

The origin and evolution of matter and energy, the origin and evolution of the universe and of the earth in particular, the evolution of man and life in general, the evolution of the living cell, atom, ion and electron have engaged the interest and service of an army of both scientists and philosophers, each working in his own respective field. Each scientist, alone or in conjunction with allied coworkers, is trying to solve a component part of the problem of life. The solving of a part of the problem is a stimulus sufficient to start one to a greater effort. The aviator, in succeeding to establish a new altitude flight record, not only has a new point of view of our globe, but his ambition is increased. He sees the world from a different angle and has a new, singular point of view of life.

And so we find the biologist, cytologist, microscopist, physicist, chemist, biochemist, zoologist, geologist, comparative anatomist, paleontologist and a number of other 'ists, by individual effort or by team work, all trying to probe a riddle, and this riddle is the origin of matter and life in the world; all looking for the key, which will open the gates to the mysteries and enigmas of life. Nature, however, holds back her secrets, and does not readily part with them.

Both the philosopher and the scientist are unceasingly in search of Nature's well-kept secrets, though their methods of approach differ. The former works in or with his "mental laboratory"; his experiments are carried out with mental test tubes and they record mental reactions. They are as much *natural* reactions as is the synthesis of water. These experiments lead the philosopher to deductions and conclusions. These conclusions are mere hypotheses. If the latter are proven experimentally, in a man-made laboratory, the hypotheses become theories or laws of nature. These "new" theories may have existed as natural laws since the appearance of space and matter, or they may have undergone evolution, in the same way as matter itself presumably gradually evolved.

Man is essentially both philosopher and scientist. In modern times, unless a hypothesis is scientifically proven in the laboratory, philosophical contributions are classed among the speculations and, even with reservation, are not accepted. Very often, however, these very contributions of thought are the progenitors of scientific truths. The philosopher often sees a single photographic film with a stereoptic mind, whereas the scientist must have stereoscopic pictures, seen with two eyes. The philosopher thinks and the scientist sees stereoscopically. Excess on the one hand leads to defect on the other and therefore, as far as one can, one should use his own mind, his own eyes and his own apparatus. A gigantic problem, however, like the one we have before us, requires the efforts and coordination of both scientists and philosophers.

The foregoing statements are, in a way, an excuse for the forthcoming hypothesis, as well as an attempt to outline the dimensions and complexity of the subject and thereby to avoid confusion, bearing in mind that the details of elementary scientific truths have been omitted.

Evolution of Inorganic Substances

Sir Isaac Newton, in his systems of the world, had speculated with a "guess", that some day natural philosophers might be able to explain the phenomena of all branches of their science by appeal to the conceptions and laws of one branch; namely, dynamics. Prout, in 1815, advanced an hypothesis, that all the elements

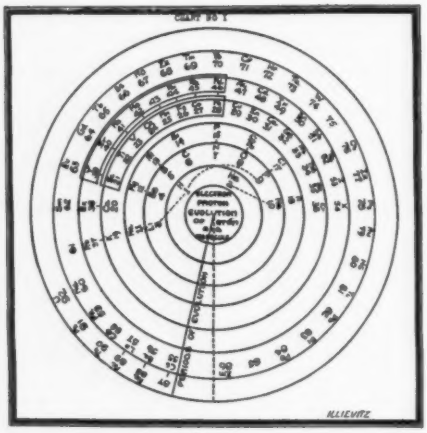


Fig. 1

are aggregates of hydrogen. This hypothesis has been greatly strengthened by the discovery of isotopes, but all the simple elements and individual isotopes have atomic weights somewhat less than the appropriate multiples of that of hydrogen, as has been shown in the case of oxygen. (See Fig. 1.) Many theorists believe that this common deficiency is due to actual loss of mass during the atomic coalescence of hydrogen nuclei, the expelled mass being transformed into energy. Isotopes and, of greater importance, Einstein's theory of relativity, have removed the obstacles in the way of the electrical theory of matter. On the latter theory, mass and energy are interchangeable

Let us now briefly comment on the properties of the elements. What does one mean by hydrogen nuclei? Electrons? And what is the relationship between the elements and hydrogen nuclei?

An atom is no longer an individual entity. It is now known to be built up of separate particles. These small particles are now called electrons and are constituents of every atom. Rutherford, in 1911, pointed out the socalled nuclear model of an atom. According to his view, the positive electricity is concentrated within a nucleus of dimensions very small, compared with the total space occupied by an atom, and is practically responsible for the whole of the atomic mass. The electrons, which surround the nucleus as the stars surround the sun, are negatively charged. An atom of hydrogen is composed of a proton (or hydrogen nucleus), which is a positive particle of unit mass, and one electron (a unit charge).

The fundamental factor which distinguishes one element from another is the resultant positive charge on the nucleus of the atom, which, when expressed in terms of magnitude of the electronic charge, is equal to the atomic number of the element. An atom of helium is composed of helium nucleus (known as an A particle), which is equal to positive particles of mass 4 (four hydrogen nuclei), and two charges. The evolution of the elements and their periodicity is shown in Fig. 1. Transmutation of elements would take place if a proton, an A particle or an electron, could be caused to enter or leave the nucleus of an atom. Progress in physics and chemistry shows that the elements developed from the protons and electrons. Oxygen, nitrogen, carbon and all the other elements are isotopes of hydrogen.

The chemistry of the simpler molecules is well known. We can synthesize water from hydrogen and oxygen, carbon dioxide from carbon and oxygen, ammonia gas from nitrogen and hydrogen, nitric acid from hydrogen, nitrogen and oxygen. From these simple compounds the chemist has taught us how to prepare the hydrocarbons, alcohols, aldehydes, acids, ketones, ethers, ethereal salts, ammonia derivatives, cyanogen compounds, phenols, quinones, carbohydrates and fats.

By condensation of molecule upon molecule, a great variety of molecules can be thus linked together to form proteins. The unit range in this case is amino-acetic acid and the following compounds show its upward trend: Glycine, alanine, valine, leucine, isoleusine, serine, lysine, arginine, phenylalanine, tyrosine, aspartic acid, glutamic acid, cystine, proline, histidine, tryptophane, etc.

Emil Fisher (1852-1919) and his pupils have been successful in building up peptides of high molecular value. (See Fig. 2.) Albrecht Kossel (1853-1927), by means of hydrolysis, was able to show that the protein molecule is composed of amino acids. Fischer devoted his energies to the synthesis of proteins, and his achievements are of the greatest importance, for all living matter is made of proteins. When one realizes that the heads of the sperm cells of fish are made up of the simplest proteins, combined with

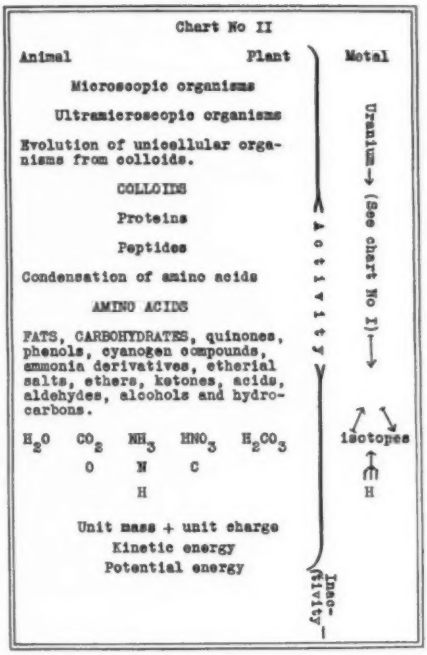


Fig. 2

nucleic acid, one can appreciate the extent of the contributions of Kossel and Fischer, and how much nearer we are brought to the proper understanding of the origin of living matter.

Thomas Graham (1805-1869) introduced the distinction between colloid and crystalloid substances, but Jacques Loeb (1859-1924) worked on the chemistry of colloids and their relation to classical chemistry. The properties of colloids are interesting. Proteins do not form true solutions and, although apparently homogeneous, like a solution of glucose, are nevertheless different, by the fact that their magnitude is greater than that of molecules. This magnitude of the particles enables them to disperse light. By means of an ultramicroscope, particles of about six millionths of a millimeter may be detected. The surface area of a colloidal solution is very large, compared with the total volume of matter, and consequently plays an important part in the surface tension and adsorption of these particles. Adsorption is the change of concentration at a surface, brought about by surface forces. In colloidal systems this phenomenon plays a very important part. By the adsorption of ions from the dispersion medium or from electrolytes present in solution, the colloid particles acquire an electric charge. Living protoplasm is made of such colloidal particles. Dry protoplasm does not exhibit the same properties, as we are familiar with the inactive state of the seeds of plants.

Development of Organized Matter

Less than one hundred years ago one did not even know what living substance was made of. In 1835, F. Dujardin, a French naturalist, proposed the term "sarcode" for the living material of the bodies of the Foraminifera in the following words:

"*Je propose de nommer ainsi ce que d' autres observateurs ont appelé une gelée vivante—cette substance glutineuse, diaphne, insoluble dans l'eau, se contractant en masses globuleuses, s'attachant aux aiguilles de dissection, et se laissant étirer comme de mucus, enfin se trouvant dans tous les animaux inférieur interposée aux autres éléments de stucture.*" This substance was later called, by Hugo von Mohl, a botanist, in 1846, protoplasma (*πρῶτος* first, and *πλάσμα* formed substance), for the tough, slimy, granular, semi-fluid constituent of plant cells, which he distinguished from the cell wall, nucleus and sap.

To explain how this "*gelée vivante*" could be endowed with such characteristics as growth, metabolism, reproduction with parental properties, and to contrast these characteristics with inorganic matter, compelled one to enlist the services of a supernatural Creator. When Darwin, in 1859, contributed to the world the famous "Origin of Species." he also intimated that the original creation was a direct act of the Supernatural. Scientists generally, who were particularly interested with the problem of creation, did not share Darwin's view.

In 1871, Sir William Thomson, later Lord Kelvin, in a presidential address before the British Association, advanced the view of the impossibility of bringing about the conversion of inorganic into organic matter without the aid of living forms. He accounted for life on this earth of ours, by the hypothesis that it was borne by meteorites from outside the solar system. For many reasons, this view was not accepted: First, because it does not explain the origin of life proper, no matter where it comes from; second, it has been esti-

mated that it would take about 140 years to go from Mars to the Earth and, on a meteorite from the stellar system nearest to the Earth, about 62,000,000 years. Climatic conditions, length of time and our knowledge that, under the most favorable conditions, organisms on this earth do not live for so many years, are sufficient evidence against this theory. Apparent truths do not, then, lead one, necessarily, to logical conclusions.

Evolutionists have shown us the changes and transformations of the rocks of the earth, the origin of species, the evolution of the cell, nay, even the evolution of the inorganic elements; it is also known that the temperature of the Earth, after its creation, has been very high, and that it took many millions of time units to cool down to its present temperature. The presumption that the living substance of many years ago was influenced by high and low temperatures, exactly as living substance of today is influenced by similar temperatures, is not a fair one. Temperatures which had, at least, a share in the formation of the various geological strata, must have had a different influence on the simplest organic and inorganic substances. Living matter, under those conditions, must have had some characteristics (probably much simpler), unknown to us under present conditions.

Nature's experiments were not, always, what one may call satisfactory. Apparently Nature's laboratory suffered many explosions, with renewed attempts at the creation of a more satisfactory world. Similar and allied experiments may have been carried out in other parts of the universe. Thus we know that many of the "experimental" animals completely disappeared and many new ones appeared in their stead.

The Swedish chemist, Arrhenius, is of the opinion that intense cold is not always injurious to all organisms. It is also reasonable to believe that the intense heat of many years ago was not necessarily injurious to the organisms in existence at that time. Bacterial spores have been known to have withstood a temperature of minus 200°C. Macfayden was able to keep such spores for a period of two months.

Thomson's theory, which is known as the panspermic theory, presupposes that all living matter is as much a result of the Creator as the creation of matter and energy is. It does not, however, explain the origin of life, but presumes that life originated on some other planet. The difficulty that arises from such a presumption is evident. The environment of an organism on some other planet may be totally different from the environment of our globe, and our earth may have been totally unsuitable for the reception of organized life.

Aristotle (384-322 B.C.), the great Greek philosopher, advanced the theory of "spontaneous generation." The first living organism was thought to be the result of the interaction of physical and chemical forces on the constituents of water, in the presence of solar influence. Spontaneous generation has definitely been disproven by many logical experiments and reasonable conclusions. Henry Thomas Huxley (1825-1895) believed, neither in spontaneous generation, nor in the primal origin of life. In 1870, while addressing the British Association, he said: "I should expect to see it appear under forms of great simplicity, endowed, like existing fungi, with power of determining the formation of new protoplasm from such matters as ammonium carbonate, oxalates, tartrates, alkaline and earthy phosphates and water, without the aid of light." A remarkable statement, made sixty years ago! One must remember that, at that time, the composition of the protein molecule was not known; the synthesis of such a molecule was out of the question.

Jacques Loeb made extensive investigation of electrolytic, thermal and radiant energy upon living matter. He founded, in 1889, the theory of "tropism" as the basis of the psychology of the lower forms of life; purely mechanical and chemical data displacing the old theories of purposeful instinctive reactions. He caused the unfertilized eggs of sea-urchins to develop into swimming larvae, by treating the eggs with hypertonic salt solution. In 1916 he had seven fatherless frogs, produced by the Battaillon method of pricking the unfertilized eggs.

Energy

It is difficult to define energy. It is infinite in its manifestations. We know that, when we eat, speak, walk or breathe we require a greater or smaller force to produce the contraction of the various muscles. This energy one derives from the ingested food and inhaled air. Vibration of atoms may emit light, heat, sound and electricity.

We speak of two kinds of energy; potential and kinetic—the power to overcome resistance and the ability to do work. They are represented by friction, force, motion, heat, light, sound, vital energy (thinking); our old adhesion and cohesion are now known as electro-magnetic forces.

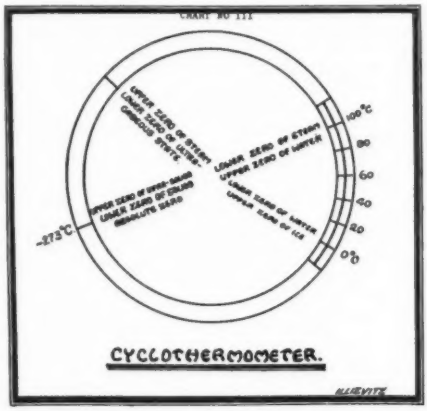


Fig. 3

At one time, and very recently at that, there was supposed to be a definite difference between energy and matter. Modern advances in scientific knowledge show that the two are interchangeable. Matter is now considered as a form of energy. While matter still remains physical, it is no longer material. It is quite comprehensible, now, that, when a substance is cooled down to the absolute zero temperature, it ceases to be a mass—in a sense, it ceases to have dimensions, as we understand them today.

Conservation applies equally to energy as it does to matter; the same is true of transformation or mutation. Most if not all of the energy on this earth is derived from the sun. If energy and matter are interchangeable, one may ask oneself a reasonable question; is the sun the creator and father of our earth?

Physical States of Matter

The coordination of the scientific facts, which are clear and reasonable to our intellect (the latter an evolution of primitive energy), is not sufficient for a definite conclusion on the origin of life (also an evolution of primitive energy) and matter (an evolution of primitive mass and energy). The investigation of all of the real and apparent obstacles in our path may lead us to a truer understanding of the etiology and evolution of life and of the evolution of the world in general.

Solids, liquids and gases are states of aggregation of matter, known to us as density. There is, however, a gap at the lower level of solids and the upper level of gases. Matter at the absolute zero temperature is perceivable, neither to our eyes nor to our intellect. It cannot be seen with an ultra-microscope. It's density does not come under the known physical states of matter. I propose to call it the "*infra-solid*" *state* of matter (a kind of inactive, virgin energy).

I have constructed an imaginary "cyclothermometer" (see Fig. 3), which, in a way, illustrates this fourth stage of matter. A substance that will withstand all temperatures will go through the three known states of density and will, at one time, be reduced to the absolute zero temperature, at which temperature the substance is considered to have no mass. The density at that stage will be that of the infra-solid state. The same substance may be heated

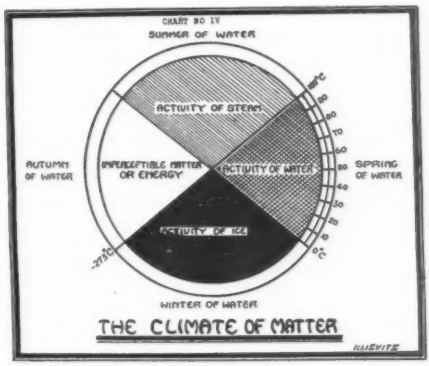


Fig. 4

to the "*ultra-gaseous state.*" Both stages may be identical, or leading to a common imperceptible state. In support of this view, we know that some of the properties of extreme heat and cold are identical. A frozen ear and a scalded ear may look alike.

The temperatures of a substance may be thus compared to the seasons of the year (see Fig. 4). The cycle of winter, spring, summer and autumn may be compared with the densities of matter (see Fig. 5). Winter, spring and summer corresponding to solids, liquids and gases respectively; autumn, the connecting link between winter and summer, corresponds to the imperceptible state of matter which connects the

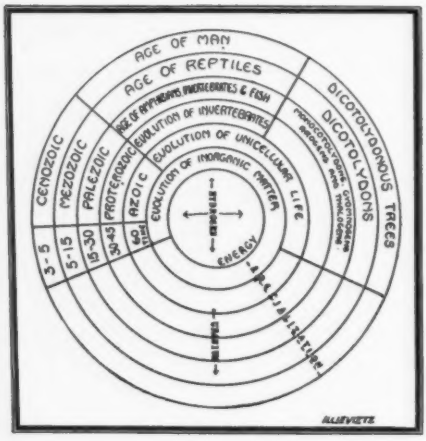


Fig. 5

extreme cold with the extreme heat and represents the infra-solid or ultra-gaseous state.

Mutation

In the previous paragraphs the evolution and mutation of the socalled primitive mass were discussed. The gradual development, or the spontaneous changes of the inorganic world, was shown to have been based upon hydrogen. The atom is no longer the smallest particle known. What were known to us by the name of elements, are now known to be isotopes of hydrogen. From hydrogen, oxygen, nitrogen and carbon we are able to produce simple and very complex organic compounds. Many of the products of the inorganic and organic would have been synthesized in the laboratory, such as petroleum and adrenaline. By the condensation of various comparatively simple compounds, complex substances were obtained, of which all living matter is made up. We have also learned that the protein of living cytoplasm exists in the form of a thick, colloidal solution.

Opposed to spontaneous generation, I should like to suggest a condition which could be called *progressive mutation;* that, at one time during the existence of the earth, conditions were such as to allow inorganic matter to change gradually into a viable substance; or that the chemical and physical properties of matter changed into biochemical and physiologic properties. *It is conceivable that the birth of life is synchronous with certain mutations of energy.*

Living protoplasm may thus be likened to a thick jelly, which is composed of millions of colloidal particles, in which there occur numerous and various activities. Adsorption, alteration in the distribution of water between the suspension particles and the dispersion medium, precipitation, agglutination, changes in dispersity, changes in electric conductivity and chemical changes are only a few of the multitudinous reactions and activities of viable matter.

Growth and Reproduction

Living substance, in addition to the previously mentioned activities, has some very remarkable and striking characteristics. It can create new protoplasm; it can reproduce itself; it can assign different functions to different parts of the newly created protoplasm; and various parts of living substance are able to specialize to perform special functions. When protoplasm reproduces itself and remains part of the parent protoplasm, the substance enlarges and we speak of it as growth. If the new protoplasm separates from the parent, re production is said to have taken place.

All living matter is composed of the most complex chemical substances, known as proteins. The latter exist in a colloidal suspension of very fine particles. Each particle of this solution is in itself alive, as long as the whole remains alive. It is conceivable that such particles could exist separately and, by undergoing physical and chemical changes, could exhibit the ability to grow. When such particles reached a large or comparatively large size, they might reproduce themselves by the simple process of division.

The remarkable properties of colloids can be better understood when one compares them with the properties of dry protoplasm. Dry protoplasm is inactive. Seeds of plants may remain dormant for years. When, however, *water, oxygen and temperature* of a suitable nature are supplied, the seed commences to germinate. These simple factors are the prime causes of metabolism, respiration and growth of the inactive and dry protoplasm.

A. B. Macallum, in the *Transactions of the Canadian Institute,* Vol. VIII, p. 463, makes the following statement:

"When we seek to explain the origin of life, we do not require to postulate a highly complex organism, such as we can see even with the low power of the microscope, as being the primal parent of all; but rather one which consists of a few molecules only, of such a size that

it is beyond the limits of vision with the highest powers of the microscope. Such an organism would be the smallest unit of life and it might be supposed that protoplasm arose from aggregation of such, each more or less differentiated from it's fellows, just as the higher or multicellular forms of life have arisen by aggregation of cells which have differentiated more or less, thus giving rise to differences of function in the different parts."

Time, Space and Measurement

We are measuring time by *time units*, in a descending or ascending scale. One presumes that "time" was, at one period, one year, one day or one infinitessimal fraction of a second. Before that time there was *no time*—a sort of an *absolute zero* of time.

If time is a dimension of matter, (as many now believe), there was an absolute absence of matter at the absolute zero time. Our starting point is either something or zero (nothing)—time or no time. In mathematics, zero is not an actual starting point, but rather a state of inactivity between or at the bottom of positive and negative figures. On both sides of the zero the numbers are infinite. In electricity the zero is only the neutral state of balanced positive and negative charges. The zero of a pendulum is the state of inactivity of the bilateral oscillations. The zero temperature is the dividing line between the solid and liquid densities of water. *The absolute zero temperature is the dividing line between the known matter of the world* and the "*unknown;*" the latter I propose to call the infra-solid state of matter.

If we accept, in these cases, zeros, as periods of temporary inactivity of mass, energy and time (all closely associated), we will automatically have to resign ourselves to "whatever is, was and will be," with modifications.

Conclusions

An attempt has been made to correlate the various modern conceptions of scientific truths, in order to demonstrate the common origin of inorganic, plant and animal matter. (See Fig. 5). This fact, or rather hypothesis was known to the ancients.

The discovery of the composition of the atom has helped us to formulate an idea of the common origin of matter and energy; also of the transmutation of matter into energy and, since energy is not material, we have learned of actual annihilation of matter. Thus, by the destruction of matter on the sun, we receive our energy on the earth.

The same discovery of the composition of the atom also shows us the complexity of so primitive a substance. In its composition it resembles the solar system. From this primitive unit we are able to show its progression—a procession of events which embraces the evolution of the whole inorganic world. The inorganic substances developed into organic substances; physical energy changed into socalled vital energy; once formed, the organized life is eventually transformed into dead material and the vital energy is transformed into physical energy.

Separate and distinct as energy and matter may appear to us, they are both properties of a universal One, whatever name one may apply to the latter. Life depends on these two properties, under suitable temperature (climate). All matter has a climate of its own—what we call density. The same climate affects different substances differently. A tree becomes temporarily inactive in the winter: In the summer it utilizes the energies at its disposal for growth and reproduction. The dead material of the carboniferous period is the source of energy of many of the activities of the present period.

Matter and energy, in the course of time, seem to go through various states of density, more or less in a cycle, as shown diagrammatically on the cyclothermometer.

Our conclusions depend on our philosophy and our science, and their influence on our minds and brains; the former the result of the development of the electrical charges of hydrogen, the latter due to the evolution of the hydrogen nuclei. These highly specialized hydrogen atoms are attempting to probe their own mysteries. As far as evolution of life is concerned, the deductions are logical and acceptable; as far as the origin of mass and energy is concerned, it is a great deal to expect, even from the highly specialized hydrogen atoms.

And we know of no beginning and no end. We cannot understand the commencement and we cannot perceive a finish. What we call empty may be full; what we call dead may be alive; what we accept as truth may be false; and science itself, from time to time, becomes doubtful.

1497 Bishop Street.

THE SEMINAR

CONDUCTED BY
MAX THOREK, M.D. (*Surgery*)
GEORGE B. LAKE, M. D. (*Medicine*)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 6 (SURGICAL)

Submitted by Dr. I. E. Crack, Hamilton, Ont., Can.

Recapitulation: On Sept. 29, 1929, a boy of 11 years manifested rather typical signs and symptoms of acute appendicitis, with temperature 100°F.; pulse 85. Operation was advised but refused.

The next day, under expectant treatment, the temperature was 98.2°; pulse 80; leukocytes, 25,000; patient felt better. At 5 P. M. he was seized with violent pain, vomiting and symptoms of shock, with the abdomen distended, rigid and very tender; temperature 97°F.; pulse, 120. He was taken to the hospital, where the surgeon advised expectant treatment—Murphy drip, morphine, fomentations.

At the end of three weeks the temperature and leukocytes were normal, but the lower abdomen remained tender, and rigid. Then all symptoms returned with violence, when operation revealed a necrotic and suppurating appendix, with a fecalith in the abscess cavity. Convalescence was stormy and the wound was still draining on Nov. 19, when the boy left the hospital.

Requirement: Discuss the relative merits of operative and expectant treatment in a child with a ruptured appendix.

DISCUSSION BY DR. J. R. STURRE, MINNEAPOLIS, MINNESOTA

The child had an acute appendicitis correctly diagnosed and the proper treatment was advised by the attending physician. The treatment of acute appendicitis is surgery. However, there is a controversy regarding what to do in a case, in a child, where the appendix is ruptured. The merits of expectant treatment or surgical treatment can be discussed pro and con ad infinitum. I would say operate if for no other reason than the fact that the diagnosis may be wrong. It may not be ruptured—it may be diverticulitis, volvulus, etc. Also when the appendix ruptures, treatment is surgical. To wait for nature to wall off the appendiceal region is to tempt fate. There is no reason why the abdomen cannot be opened over the pathologic area, the appendix deftly removed, if possible, without soiling the entire abdomen. If conditions do not permit the removal of the appendix, at least drainage can be instituted without adding anything to the operative risk. I have never regretted surgical interference in a ruptured appendix and I would operate at once, whether it was a child or an adult.

DISCUSSION BY DR. W. B. GERHARD, CHICAGO, ILLINOIS

In the condition of ruptured appendix of children, there is no alternative to immediate operation unless the patient is in articulo mortis and then the expectant treatment is for sufficient strength to develop to ultimately permit the operation.

DISCUSSION BY DR. M. O. ROBERTSON, BEDFORD, IND.

Appendicitis is a surgical condition always, at whatever hour seen, and should

never be treated expectantly, except in cases when operation is impossible or cannot be obtained.

What can be gained by expectant treatment? Very little! Morphine relieves pain, as do cold applications, but they do nothing toward relief of the pathologic conditions present. Of course, patients can be made more comfortable, but it is my opinion that the only real good that can be done is to withhold purgatives and supply fluids. Dr. J. W. Kennedy, of Joseph Price Hospital, Philadelphia, has serious doubts as to whether an appendix ever ruptures without a purgative to precipitate the event. I share his belief on this subject. Many times I have found, after the operation, that the patient has received a purge that I knew nothing about, until he was well on the way to recovery after operation.

Of course, if one operates upon every case of appendicitis the mortality rate will inevitably be higher than if the surgical cases are selected. I feel sure that most cases lost with operation would have had little chance with expectant treatment. This may not be a popular view, but I feel sure that it is correct, though it is not original with me. Dr. Kennedy discusses the subject thoroughly in his recent book, "Practical Surgery in the Joseph Price Hospital," presenting many views that differ from present-day teaching, a few of which I know are right, from personal experience.

Discussion by Dr. G. J. Warnshuis, Milwaukee, Wis.

The case of appendicitis aptly illustrates the lack of agreement that exists concerning the proper procedure in some of the common conditions encountered in medical practice. Appendicitis is such a familiar ailment that it would seem as though any discussion of it would merely be a repetition of well known facts. Yet I think the editors have been well advised in selecting this case as a problem.

Twenty years ago the common dictum was: "When in doubt, open and drain." Subsequent experience has not made this rule any the less valid. Even without operative treatment, appendicitis is not the highly fatal disease it is generally supposed to be. John B. Deaver once made the statement that, before surgical treatment was much in vogue, 85 percent of cases recovered. We have all seen cases with definite symptoms that refused operation and got well without recurrence.

Unfortunately, our diagnostic acumen is not such that we can safely determine what cases will recover without surgery. A recent paper, differentiating a socalled obstructive type from a strictly infectious form, is a valuable contribution, and my own observations confirm the author's experience. I don't know if I can fully agree with him as to the precise cause for the difference in the symptoms, but the fact remains that the cases I have seen develop the gravest symptoms of sepsis, two of them terminating fatally, were not those with the classical signs of early, distinctly localized tenderness over McBurney's point, sharp pain, fever, and rigidity, but presented more indefinite symptoms at the onset. The most striking feature of such cases has been the localizing of the pain more about the middle of the abdomen, with very little, sometimes no, fever. When suppuration and local peritonitis ensue, the classical signs and symptoms appear.

There are several other points that enter into the differentiating of the rapidly fulminating, highly septic types from the milder forms, but I merely wish to emphasize that there are two kinds of appendicitis, in one of which the expectant treatment may be a matter of choice, according to the exigencies of the case, while the other permits of no temporizing. The latter class appears to be extremely uncommon in children. The infection remains localized and well walled off. We have seen such cases walk into the office with an abscess in the groin, about to evacuate itself externally. Expectant treatment in such cases—waiting to see if the inflammation would subside or permitting time to elapse for the walling off process to be well developed—may sometimes be advisable.

In the case described, the condition had been developing for four days before the signs of sudden collapse appeared. There was not much systemic disturbance until this occurred; in fact, the doctor had a hard time to convince the parents of the seriousness of the situation. The sudden change in the picture indicated the rupture of a slowly developing abscess into the peritoneal cavity.

With the peritoneum already contaminated, there is greater danger of disseminating the infection by operation, to say nothing of the effect of the anesthetic and the operative shock on the resistance of the patient. The fact that many such abscesses do remain localized is also an argument in favor of the

expectant treatment. However, with the proper technic, these objections can be largely minimized, drainage instituted, and the unfortunate sequelae and prolonged, dangerous illness avoided.

The exceedingly low mortality of appendectomy in all types of cases, is a strong argument against the expectant treatment, which is only permissible in the early stages of these mild cases (not necessarily the ones with mild symptoms). In this case operation, at any time before the fourth day, would have eliminated much of the danger. The question, when is a pain in the side appendicitis and when not? is another matter.

Closing Discussion
By Dr. Max Thorek, Chicago

One can talk about appendicitis for days. The subject is hackneyed. Many methods of treatment have been suggested and discussed for years. The final word has not yet been said on what is the right and what is the wrong therapy in a given case.

Dr. Crack's case is not an unusual one. Problems such as this arise daily. Yet there are some features which deserve elucidation. In the first place, after a quarter of a century of surgical experience, I am loath to conclude with Theodore Kocher, who stated many years ago, that he "would rather have ninety-nine patients on whom he had removed the appendix, under assumed diagnosis of appendicitis, and found the organ normal, than to have missed diagnosing one case and have a tombstone testify to his mistake." While it is true that refinements of diagnostic technic enable us to recognize more cases of inflammation of the vermiform appendix than heretofore, it nevertheless remains a sad but true fact that mistaken diagnoses are of daily occurrence. It is a wise rule to adopt, when we suspect appendicitis and the symptoms point to it, and where there are no contra-indications to operation, to remove the offending organ, at the earliest opportunity.

With proper technic, with the blessings of local anesthesia, operative procedure offers better chances to the patient than procrastination. I still hear the words of an eminent surgeon ringing in my ears, when he emphasized the following dictum. "I never let the sun set without removing an inflamed appendix, nor let it rise without having relieved a strangulated hernia." If one will keep this in mind the number of death certificates eloquently mocking our efforts would decrease.

We are faced with the problem of preconceived notions on the part of the parents, relatives and some ignorant "doctors" (cultists). Of course, cathartics in the case of an inflamed appendix are dynamite. The treatment Dr. Crack administered in this case was proper. He had to deal with a difficult situation and handled it well. I am surprised that the patient recovered after the barrage of insults to the intestinal tract initiated by the cathartic administered by the mother. It must not be forgotten that often the patient is better off without an operation than in the hands of an inexperienced operator. Nature with its tendency to wall off pathologic foci does better constructive surgery than the destructive fingers of an inexperienced surgeon. Generally, procrastination is a dangerous procedure in this class of cases, and the consulting surgeon in this case who advised expectancy perhaps had good reason for doing so at the time.

The outstanding feature in this case, to me, is that enterostomy has been done by Dr. Crack when symptoms of intestinal obstruction became threatening. I wish this expedient would be resorted to more frequently. Many lives can be saved by its timely use.

The man who introduced enterostomy for intestinal obstruction has rendered a great service to mankind. He is entitled to the Nobel Prize at least. We have been able to save, at the American Hospital, a number of patients by this simple operation. I say "simple" because when it is done deftly, under local anesthesia, it can be performed in a few moments. However, I have seen enterostomies assume, in incompetent hands, formidable aspects. All that is necessary is good infiltration, (novocaine); picking up of the first piece of bowel that presents itself; of introducing a catheter of the proper size into the lumen of the bowel, care being taken not to permit intestinal contents to escape. After the catheter has been stitched into place it is wise to pick up the omentum, make a small opening through it, bring the distal end of the catheter through it and attach it with a delicate catgut suture to the catheter. Closure as usual. I have learned the great protective value of the omentum in this operation. Whether Dr. Crack has followed this technic or not, I do not know, for he

speaks of the tube being inserted into the bowel, which to all intents and purposes is an enterostomy. The result he obtained speaks for itself. I believe this was a life-saving procedure.

PROBLEM No. 8 (*Surgical*)
Presented by Dr. F. W. Schroeder, Strasburg, Ill.

The patient, a woman of 62, whom I was called to attend was suffering from a vague collection of abdominal symptoms which could not be correlated into a diagnosis of some definite affliction. She complained of little else than just "feeling bad." She was a bit sensitive over most of the abdomen; had little appetite; bowels had moved freely, following senna tea, and the kidneys acted normally. As regards her past history, the only factor having any possible bearing on the present condition was an attack, at long intervals, of what she called "indigestion."

The point of importance was the finding of a tumor, about the size of a quarter-pound ether can, located at the outer edge of the right rectus muscle and two inches below the normal location of the gall-bladder. The tumor felt elongated but smooth and, since the patient was a slender woman, the growth could easily be outlined bi-manually. It was movable within a limited area.

The patient was not cachectic but, within twenty-four hours, had grown decidedly weak, requiring a nurse to help her from her bed to the bath-room.

At the time I was too crowded, with work demanding immediate attention, to do more than treat her symptomatically and to have my technician make an x-ray study of the gastro-intestinal tract. This study did not prove nor disprove anything.

On the third day after the x-ray pictures were taken, the husband informed me that his wife was of the opinion that the tumor was gone. I left a crowded waiting room and went to the nearby residence of the patient. With the best efforts at my command I could not find anything to indicate that a tumor had ever existed.

Within twenty-four hours all symptoms had left her, her strength returned and, since then (two years), she has enjoyed the best of health.

Requirements: What was the nature of the tumor? Why did it disappear?

SOME SURGICAL APHORISMS

Frequently, at operation, we find to our chagrin, conditions other than we expected but which would have been revealed by taking a careful history.

Every surgical patient should have a quick but complete physical examination before the local examination.

It is always much safer to plan the operation for the particular patient than to attempt to fit the patient to some stereotyped operative procedure.

Be safe rather than brilliant. A live patient with his appendicular abscess drained is a better monument to surgical skill than a dead patient whose badly diseased appendix has been removed. A postoperative hernia may be more to be desired than a well closed abdominal wall on a dead patient.

Before considering serious operations upon the biliary tract, accurate estimates of the reserve function of the liver are essential.

As in planning an operation we fit the operation to the patient, so in choosing an anesthetic we must fit the type of anesthesia to the patient.
—DR. A. M. DICKINSON, Albany, N. Y., in *New York St. J. Med.* Feb., 15, 1929.

THE CLINIC

DIAGNOSIS

The Differential Diagnosis of Headache

(A Study in History Analysis)

By Alvin W. La Forge, M.D., *Chicago*

A DIAGNOSIS is not made by a physical examination, laboratory investigations nor radiographs. These are but methods of obtaining diagnostic data. Then, by a process of reasoning, the clinician analyzes the case, evaluates the data, correlates them to the patient's complaints and finally arrives at the diagnosis. In the analysis, a few isolated facts may reveal the clue that leads unerringly to the correct diagnosis. Sometimes the absence of certain findings helps to establish it. The key to the diagnosis is sometimes discoverable in the history. The case given below is presented because the analysis of the history alone revealed certain peculiarities that led to the speedy correction of a long-standing and painful condition, without subjecting the patient to an elaborate physical examination.

Case History

A woman, forty-eight years old, entered the hospital complaining of headaches from which she had suffered intermittently since girlhood. The headaches were fronto-temporal, usually bilateral but, on rare occasions, localized to the left frontal region and relieved by five or ten grains of aspirin (acetylsalicylic acid) or a similar product. Two years ago the headaches suddenly became much worse; almost constant; localized much more definitely to the left frontal region; and required larger and more frequent doses of aspirin, which secured decidedly less relief.

The history elicited the information that the headaches were apparently not related to constipation, menses, fever, defective vision or excessive use of the eyes, ear complaints, poor ventilation, exposure to chemicals, gases and dust, or to any other factor of which the patient was aware.

About twenty-two months ago she became conscious of a persistent, sweet-sourish, mouldy odor, not detectable by other members of her family. Since that time her smell and taste have become impaired, but she still complains of the constant mouldy odor.

Further questioning added the information that, since their first appearance in her girlhood, the headaches have occurred more frequently during the autumn, winter and spring months and were always aggravated by acute head colds, to which the patient was subject. No other information of significance was obtained. The intern who had taken the history remarked that it was very sketchy.

Desiring to determine what information was lacking an attempt was made to analyze the scanty information given so that the missing elements could be determined and secured by further questioning of the patient.

Analysis

In the analysis of a headache case, the first step is to determine whether the pain is of intracranial or extracranial origin. Headaches due to intracranial causes have

such clean-cut characteristics that they are generally easy to recognize. They are due to inflammatory conditions, pressure-producing conditions or both.

Headaches due to inflammatory conditions are identified by sudden onset, fever, terrific bilateral head pain without intervals of relief, of brief duration—days, not months—are usually progressive and associated with rigidity of the neck and other unmistakable signs of irritation to the nervous system.

Intracranial pressure-producing conditions, non-inflammatory in nature, can cause headaches which are more gradual in onset, of longer duration, not associated with fever, possessing the same peculiar intensity of head pain with no intervals of complete relief, are usually progressive and are not relieved completely or for a very long time by either coal tar products or opiates. Choked discs, due to increased intracranial pressure, and clinical evidence of localized irritation to the brain soon develop.

Intracranial conditions produce headaches which present a sharply delineated clinical picture scarcely to be mistaken for anything elese. An intracranial condition, originally inflammatory, can later become pressure-producing, changing the symptom picture accordingly.

The outstanding diagnostic peculiarity of intracranial headaches, regardless of their cause, is *intensity with no intervals of complete relief*. They can be safely ruled out of the case under consideration, because in this patient the headaches are of thirty years duration; of uniform severity until two years ago, and of uniform but increased severity since that time; are not associated with fever; show a distinct localization to the left frontal region; the pain lacks the intensity of intracranial headaches; and neurologic involvement is absent.

Headpain due to ear conditions usually results from acute infection or its complications. The pain is usually unilateral, the point of maximum intensity being localized so sharply to the region of the affected ear that the patient refers to it as earache rather than headache. The eardrum usually shows marked changes, the hearing is impaired and there is usually abundant clinical evidence indicating the origin of the pain. If intracranial complications develop, the clinical picture changes, assuming the characteristics indicated under headaches of intracranial inflammatory origin; but information relative to the preceding condition is easily discoverable or obtained.

Headpain due to ear conditions does not recur frequently—rarely more than two or three attacks. The suddenness of onset, sharply localized, unilateral pain, impairment of hearing and drum changes make headpain due to ear conditions about the easiest of all to recognize. In the case under analysis, ear conditions can be excluded, because the headaches are of many years duration, not associated with fever, without impairment of hearing and are bilateral, with frontal localization.

Headaches due to **eyestrain** do not have the intensity of those caused by intracranial, aural or nasal conditions. Faulty accommodation produces a "tired feeling," a sense of local muscular fatigue which usually reveals definite association with prolonged use of the eyes, usually occurs in the afternoon and evening, is relieved by resting the eyes and, in many cases, by the therapeutic test of paralyzing the accommodation for forty-eight or seventy-two hours by instilling atropine. These headaches are usually found in young patients and rarely occur after forty-five years of age. In the present instance, the eyes could be ruled out because of the patient's age, the intensity of her pain and the complete lack of association with the use of her eyes.

Menses and pelvic disorders can be eliminated as a contributory cause, because the headaches began early—before the menstrual function was established—and, not only persisted, but became aggravated after the menopause.

Invariably the patient who has suffered headaches for many years has definite ideas as to whether or not constipation aggravates them and, if so, has secured relief by catharsis. Chronic headache sufferers can nearly always furnish accurate and detailed information regarding their intestinal function. Usually they volunteer it. In this case, inadequate intestinal elimination could be excluded, because this function was normal, having been carefully watched and controlled, and catharsis, sometimes resorted to, had failed to bring appreciable relief.

The patient was a housewife and, during the past twenty years, had lived in the West on three occasions of several years each. Even when living in a high altitude, with a clean, dry atmosphere, the

headaches had occurred but with lessened frequency and severity, definitely excluding exposure to dust, gases or chemicals as a causative factor.

Nasal and accessory sinus conditions are responsible for many types of headache, but certain diagnostic peculiarities are common to them all. Of these *chronicity* is the outstanding one. In a diagnostic sense, *chronicity* is, to the nasal headaches, what *intensity* is to the intracranial headache; what *unilateral localization* is to the aural headache; and what *aggravation from prolonged use of the eyes, in patients under forty-five,* is to headaches from eye strain.

The second most important peculiarity of nasal headaches is their location. Their maximum intensity is invariably frontal and fronto-temporal and they are usually bilateral. This bilateral headache is sometimes preceded and sometimes followed by unilateral localization, but rarely is a severe headache of nasal origin strictly unilateral. The unilateral localization sometimes associated with bilateral headaches generally occurs on that side of the head corresponding to the side of the nose revealing the greatest amount of disease or irritation. Pain in the vertex or occiput is sometimes associated with nasal headaches, but rarely dominates the fronto-temporal pain.

An accurate statement as to what conditions aggravate a chronic headache assists greatly in discovering its origin. Aggravation from head colds and maximum frequency during the autumn, winter and spring months, when head colds prevail, is a definite and important concomitant of nasal headaches, and relief from the headaches in direct proportion as the head cold disappears is a corollary of equal diagnostic value.

An attempt has been made to correlate the point of intranasal irritation with the point of maximum intensity of the headache. Pressure-producing conditions in the frontal sinus and its atrium have been related to frontal headaches; sphenoid inflammation has been connected with pain in the vertex; and post-nasal irritation is assumed to be the cause of temporo-occipital and occipital headaches, but this refinement of intranasal localization is filled with pitfalls. The intranasal structures are so intimately related and their condition can fluctuate so rapidly that the localizing inference based on the location of the headache is subject to many errors. The mere fact that the headaches are of nasal and para-nasal origin is sufficient for general diagnostic purposes, because it is enough to indicate the line of approach by which relief may be secured.

Nasal headaches are usually aggravated by poor ventilation. Patients with headaches of proven nasal origin sometimes complain of an aggravation which they believe to be due to the use of the eyes. Careful questioning on this point has revealed that such aggravations occurred in motion picture theaters or similar places, where the factor of poor ventilation was ignored because the visual factor predominated in the patient's consciousness. Failure to differentiate these conditions clearly sends many sufferers from nasal headaches to the optometrist, optician or oculist. In fact the usual treatment for nasal headaches is several pairs of glasses, followed by prism exercises and then, in some cases, by tenotomy.

It is probable that ten patients with nasal headaches consult an optician or oculist, to one with ocular headaches who, without medical advice, consults a rhinologist. Failure to secure relief by carefully prescribed glasses should immediately suggest to the oculist that some other cause exists, because a headache relievable by glasses usually shows marked improvement within a few days.

Much more might be said regarding the peculiarities of nasal headache, but enough has been covered to warrant the belief that, in this particular patient, the headaches are of nasal origin, although three unusual features remain unexplained; First, the sudden increase in their frequency and severity two years ago; second, their left frontal localization since that time; third, the persistent mouldy odor, which began about twenty-two months ago. These unique features are a striking departure from the usual course of nasal headaches, which are nearly always bilateral when severe. Furthermore, nasal headaches do not suddenly become more frequent and more severe unless there has been some acute insult to the nasal structures, such as an unusually severe head cold or an acute sinus infection. The patient had denied that either of these conditions had occurred just prior to her aggravation two years ago.

The persistent mouldy odor was also unusual as victims of chronic nasal disease usually suffer impairment of their sense of smell, which was present. Many patients

complain of persistent odors not perceptible to others, which may be due to decomposed food under the gum margins, tonsillar crypts filled with debris, retained purulent secretion in the antrums or in Myers' sulcus and other local causes, and sometimes are purely subjective in origin. If subjective, their description is usually vague and variable. This patient gave a very accurate description of the odor complained of, and the word "mouldy" is significant.

Nasal Examination

These three discrepancies taken together, were too striking to be overlooked. The left frontal localization, with increased severity of the headache and the mouldy odor, suggested a possible local cause, so, it was decided to examine the nose immediately, before proceeding with a routine general examination.

Examination with a nasal speculum revealed considerable mucopus present on the left side. Examination with a nasopharyngoscope revealed a yellowish mass in the upper, posterior portion of the left nasal space. This was removed with alligator forceps and found to be a pledget of cotton, about one and one-half inches long, three-eighths of an inch thick and three-quarters of an inch wide, tapering off to the ends. The cotton was covered with an accumulation of mucopus of a decidedly unpleasant, mouldy odor.

The nose was irrigated and a considerable quantity of mucopus removed. The headaches and odor ceased immediately. After a few days of daily nasal irrigation, the nasal structures were comparatively normal. The patient, seen two years later, stated that the headaches and odor had not recurred.

Comment

After removing the foreign body, the patient was questioned as to the reason for the cotton having been placed there. She then stated that just two years ago she had had a nasal operation, which had been followed by a severe hemorrhage, making it necessary to pack the nose three times to arrest the bleeding, and that, evidently, all of the cotton had not been removed. Three weeks later she had moved away from the Western city where the operation had been performed and was no longer under the observation of her surgeon.

She stated that when her history was being taken and she was questioned regarding surgical operations she thought the intern referred to abdominal operations and had forgotten to inform him about the nasal work. Furthermore, that, inasmuch as she had headaches for a long time prior to her nasal operation and that they had continued after it, she merely assumed that the operation was not successful, but it did not occur to her that the aggravation might have been due to the operation itself or its complications.

A careful inspection was made of the nasal structures a few days after the cotton was removed and it was found that the surgeon had performed a very creditable operation, having straightened the septum unusually well and removed the middle and superior turbinal, restoring ample ventilation and adequate breathing space.

It is difficult to understand how events, important and unusual in a patient's life, can be so completely forgotten or overlooked, yet every clinician learns that this is not of infrequent occurrence. In the analysis of a case and the correlation of the diagnostic data to the patient's complaints, it is important that we learn to recognize the unusual or peculiar features. In some cases these will be found to be trivial and incidental, but in others to be of vital importance, so in every case they should receive critical study.

The practice of medicine is an art based on many sciences. Diagnosis, a vital branch of the practice of medicine, is neither an art nor a science, but a process of reasoning, based on clinical logic. To attain precision in diagnosis one must acquire a knowledge of the clinical manifestations of disease and cultivate the faculty of analytical reasoning.

55 E. Washington St.

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Endocrine Problems

ENTHUSIASTIC endocrinologists have stated that the future of therapy depends on the further development of treatment by hormones—that all disease could be overcome, apparently, by the giving of these interesting substances.

This, of course, is not the case. The action of the internal secretion, is supplementary to that of the nervous system and all organic correlations assumed to be nervous, are largely considered to be induced by chemical factors.

There is nothing supernatural in the process of life. Protoplasm is but a chemical compound. Every single process of mind, conscious or unconscious, emotional and intellectual, is influenced by the chemical activities arising from the secretion of the endocrine glands. Without the influence of these secretions we would have no mind at all. We would still have a brain, it is true, but the brain would not function. Take only the thyroid secretion away, and the person becomes an imbecile—a cretinous idiot. The nerves, down to the tiniest cell, must receive the magic chemical mixture from the endocrine glands, or there is no feeling.

It is surprising how cells respond to the very minute concentrations of specific hormones provided by such a small body as the parathyroid; but experience of the reaction of the cells to minute concentrations makes this an ordinary experience, such as the excitation of the sense of smell by a flower or the response of a tuberculous patient to 0.0000001 mgm. or less of a solution of tubercle bacillus. All development is also probably influenced by a force derived from the sun.

Clearly, the glands of internal secretion have developed through change of environments; those developing a secretion survived, for it is well known, if the developing fetus does not develop a pancreas; that is, cell islets, it does not survive the cells of the chorionic villi; while without the other glands of internal secretion it can survive, but it is abnormal in appearance and function. So too, at any time after birth, failure of the internal secretion of the pancreas, if of sufficient extent, is rapidly fatal, as is also failure of the pituitary or suprarenals.

Recent work in England has shown that a greater fall in blood sugar is shown when parathyroid is given, by mouth, simultaneously with injection if insulin, than with insulin alone. As an aid to those treating the sequelae of chronic infectiins, this is of interest.

Therapeutic experience has proven the value of thyroid substance in certain conditions and in some infections. The quality of material employed is of the utmost importance, in treatment, and the administration of thyroid gland should never be hurried.

Beebe has produced two very differently acting substances from extracts of human thyroid tissue. He precipitated the nucleoprotein, as well as a globulin. The hypodermic or intravenous injection of a solution of 1:1,000 of the nucleoprotein, in normal individuals, every four hours, increased the pulse and caused a feeling of nervousness, tremor and insomnia within 24 to 48 hours.

The same dose of thyroglobulin produced no results and, when increased to 1:100, caused symptoms of tachycardia only in

some individuals; generally it has no such effect. The nucleoprotein effect can be produced with commercial thyroid extract or thyroxin. It is not possible to obtain, commercially, a separate product which gives the globulin effect.

It has been shown that, by giving a small dose (½ grain—32 mgm.) of gland, three or four times a day, the globulin effect can be obtained; while by giving larger doses (2 grains—130 mgm.—or more), three or four times a day, approximately a minor nucleoprotein effect results, which, if it is unduly pushed, produces the highly undesirable result of the full nucleoprotein or thyroxin effect. For this reason, in weight reduction, a dose of 2 grains, three or four times a day is given, and gradually increased until the desired result is obtained, taking the utmost care that blood pressure is not unduly raised, the patient unduly exhausted, nor his heart unduly hypertrophied.

Pituitary extract has exactly the opposite effect of thyroid nucleoprotein. The commonly accepted criterion for judging the activity of any thyroid preparation is its effect upon the basal metabolic rate of mammals. Thyroxin exerts a profound effect upon metabolism when intravenously injected; whereas the same substance, when acetylated, is inactive in mammals, but is highly active in amphibian larvae. Basal metabolism is not an absolute measure of the activity of any thyroid preparation, owing to the variable reactivity of the subject's own thyroid gland to iodine, when such preparations are introduced into the organism. Iodine itself may be active in increasing metabolism, providing the individual retains efficient active thyroid structure.

L. R. DARLING, M.D.
Mt. Vernon, N. Y.

When May the Cost of Hospital Care be Reduced?

DISCUSSING the ways and means by which hospitals can reduce the cost of care for patients of moderate means, one of the leading executives of the field recently enumerated the basic conditions which will govern the reduction of cost:

These are: (1) When the capital investment in hospitals is confined to well-built, well-ventilated, well-lighted buildings, adequately equipped to provide the best of diagnostic and treatment facilities;

(2) When a larger proportion of ward and semi-private accommodations is provided, at a rate much lower than that for private rooms;

(3) When the public is educated to use accommodations in keeping with financial ability;

(4) When the public, of its own choice, selects moderate-priced hospital accommodations, instead of expensive private rooms;

(5) When patients are educated by their attending physicians and by hospital authorities to use the floor nursing service provided by hospitals, at all times when special nursing service is unnecessary;

(6) When the cost of caring for indigent patients is equally distributed between the state and the hospital;

(7) When economy is exercised in the purchase and use of hospital supplies, equipment and facilities;

(8) When the average citizen provides in his budget or financial arrangements against the day his family will need hospital care.— *Hospital Topics and Buyer*, June, 1930.

India's Rural Sanitation

THE efforts of the League of Nations and other health promoters in different parts of the world, toward the improvement of public health, are meeting cooperation by philanthropic organizations and by the States. India is much behind, jointly, as a nation, and individually, as a community. It will be in the interests of the public that India should have better health organizations.

In the rural districts there is not what we call a trained sanitary staff, of the grade that would suit the financial requirements of the various local boards and municipalities, and the cheap sanitary service available has not been inaugurated, pending the time when an efficient staff, for the modern type of public health service, can be maintained by the various departments concerned with the health of the people. Until such time comes, what is required is a short course of training in sanitary work, for those who are on health committees of villages, or those actually in charge of or looking after sanitation. The chief officers of various small municipalities should take some training in sanitary work, where no health officers are available or appointed.

Where there are no chief officers, others should take up training in sanitary work, in the Hindustani language, if they can not follow the English courses.

In the villages, mosquito breeding places are innumerable, in the cultivated areas and around the water supply and the sewer system. This needs antimosquito brigades.

The water wells need proper looking after as, in most cases, they are in such a state as to be polluted. In all wells there should be arrangement, at least, of a protective wall and a raised enclosure. Certain large cities in India have started closing the wells, where they are present in large numbers. But wells are not the breeding places of mosquitoes. It is the stagnation of water and improper drainage that are responsible for the breeding of mosquitoes and the pollution of water. If the wells were maintained in the proper sanitary state, there should be no cause for pollution or stagnation.

Especially in the villages and rural districts, where there is not so much congestion, the best source of water supply is the wells. The advantages of good wells are: A constant source of water supply, with no question of scarcity or waste; the water of good wells is better than piped water. Where it is feasible to close the wells, tube wells might be easily provided. In villages, where there are many lakes and rivulets, the water of which is being used for all purposes, many diseases are attributable to this condition, if proper sanitary conditions are not maintained. Tube wells might well be provided in such places, for drinking water, as the water from lakes and rivulets is often muddy and not free from contamination. These wells can also serve the purpose of irrigation of the cultivated lands.

The various low lands need proper leveling, so as to have proper drainage, in the rainy season especially. This can, to a certain extent, be done by using refuse material and by manual labor, especially in those areas which are in the vicinity of the towns. These places are often breeding places for mosquitoes. In my opinion the planting of eucalyptus and neem trees, in and about the area of the villages and certain mosquito breeding spots, will do a great deal toward the improvement of sanitary environments. These who are employed in malaria research might investigate this and form their conclusions. The planting of these trees and others possessing antimicrobic and disinfectant properties might be useful.

In the rural districts, proper latrines are especially required, as otherwise there is every possibility of pollution from the open lands which are used for these purposes and which, on account of improper and inefficient drainage, are the causes of certain insanitary conditions.

The essential factor in a scheme for improving health is the enlightenment of the people. They must be taught to live healthy lives so that they can resist and prevent disease, and warned against the various methods of disease causation, so as to destroy the places of mosquito breeding and take necessary measures for prevention, from time to time. Regular, permanent, stationary and moving dispensary hospitals for epidemic and tropical diseases should be especially maintained. No sanitary problem was ever solved by treating only those who fall ill. An effort must be made to prevent healthy people from falling ill. The future of a healthy nation lies in prevention.

All the efforts that are being made to improve the sanitary and health conditions in different countries are now directed toward improving sanitation and educating the public. This is doing much good and has caused great improvement. If, individually, we learn more about hygiene and health we shall be a healthier nation. If such education is imparted, at all times of life, it will do a great deal of good, and thus lead to the improvement of public health.

The chief officers, as well as health officers, should visit and acquaint themselves with modern scientific developments in the city municipalities of India, and, when suitable opportunity affords, should go abroad. This will greatly facilitate improvement and development in various aspects of municipal sanitation and health work.

K. M. HIRANANDANI, L.C.P.S. (Bombay)
Hyderabad, Sind, India.

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[We are glad to hear from our Indian confrere, and a perusal of the problems with which he is dealing should make us conscious of the advantages of living in a land where the cruder sanitary insufficiencies have largely been abolished: Not

wholly, however, for in large areas of the United States the conditions are almost as primitive as those he describes and can be improved by the methods here advocated.—ED.]

Surgeon's Responsibility for Sponge Left in Abdomen

THE appellate court of Illinois, according to a report in the *Joliet* (Ill.) *Herald-News*, for June 12, 1930, has recently reversed a decision of the circuit court awarding damages to a patient because a sponge was left in her abdomen at a surgical operation (Mrs. Helen Olander vs. Dr. Tessing S. F. Johnson).

The basis of this reversal is that the surgeon showed no negligence if he followed the usual rules of the hospital by inquiring of the nurse whether the sponge count was correct and also made a reasonable investigation as to the presence of any foreign matter in the belly before closing the wound.

The court also held that it is to the patient's best interests that an operating surgeon devote practically his entire attention to the work in hand, without distracting his mind by counting sponges and instruments, which responsibility should devolve upon the nurse or nurses in attendance.

G. B. L.

Taking Medicine

WIDE variation in the size of teaspoons and tablespoons suggests a caution to the public in using these devices for measuring doses of liquid medicines. For a few cents the family medicine chest can be supplied with a graduated medicine glass, thus avoiding possible over-doses or under-doses in the administration of medicines.

Some other valuable suggestions to medicine takers are:

Never take medicine in the dark.

Always look at the label and read the directions before taking a dose of medicine.

Never increase the dose or take it more frequently without consulting your physician.

Pour from the bottle, with the label upward. This keeps the label clean and legible.

Never take medicine originally intended for others; the drugs it contains may be entirely unsuited for your condition and be actually harmful.

Capsules, pills and tablets should always be taken with a few swallows of water, unless otherwise directed by your physician.

Keep medicines out of reach of children.

Keep capsules, pills and tablets in a dry place—moisture may spoil them.

Always keep medicine bottles, boxes, jars or tubes tightly corked or tops securely on.

Keep ointments and salves securely closed and in a cool place.

Never interchange tops or covers on pill or powder boxes if they bear directions regarding use. Dangerous results may occur.

After using an eye-water in an eye-cup, do not pour it back into the bottle, as this is apt to contaminate the preparation.

DRUG TRADE BUREAU OF PUBLIC INFORMATION.

Chicago, Ill.

Handling Prescriptions

I WAS much interested in the editorial comment on my note regarding prescriptions, in the April CLINICAL MEDICINE AND SURGERY, page 301, and agree with the statement that most errors attributed to the pharmacists are really the fault of physicians.

In order to avoid misunderstandings, I have a note to the druggist printed at the bottom of all my prescription blanks, like this:

N. B.: This prescription is the property of the writer. Druggists retain it and give no copy. It must not be refilled, under any circumstances whatever, without my order. (See other side).

Then, on, the back, is printed a note to the patient, in this form:

NOTICE:—Never have a prescription filled a second time, without the advice of your physician to that effect, because a medicine which has a curative effect in one attack may not be the proper remedy is a subsequent one, owing to new complications which may have set in.

Never use a preparation which has been prescribed for some other person, because a medicine which will cure one patient may not be a safe remedy for others, even though they have some of the same symptoms, owing to the fact that different diseases may present similar symptoms and yet require entirely different treatment.

For the safety of patients, druggists are requested not to fill this prescription a second time without the written advice of the prescriber.

These blanks, bearing, of course, my name and address and prepared in the usual form, are printed for me, at a reasonable price, by the Jacobus Printing Co., 1723 W. Madison St., Chicago, Ill.

On one occasion I treated a patient who was sensitive to quinine, so I prescribed the *hydrobromide* and told him it would not affect his ears. The next day he came in, almost deaf, and *said things* to me. Having my suspicions, I asked where the prescription was filled and, the next day, I stepped into that drug store and asked for an ounce of quinine hydrobromide. The clerk said that they had none in stock. Then I knew that the prescription had been filled with the sulphate. Since then I *specify* where my prescriptions shall be taken. This also keeps us clear of druggists who pay no attention to my note about copies of prescriptions and refillings.

JOHN A. GIBBONS, M.D.

Mitchell, Ind.

[This is a helpful and practical note. We notice, also, that Dr. Gibbons has his *registry number* printed on his prescription blanks. A good idea!—ED.]

Leprosy in the United States

INCREDIBLE though it may seem, a recent report by the U. S. Public Health Service reminds us that leprosy, one of the oldest diseases of which authentic medical knowledge is available, has been thoughout history one of the least understood and most maligned.

While it is undoubtedly true that leprosy is an infectious, slightly contagious disease of unknown means of transmission from person to person, and while untreated and uncaredfor lepers almost inevitably progress to repugnant pictures of suffering and mutilation, it has remained for the last few decades to allay, to some extent, the frank terror which the word "leprosy" strikes upon a neighborhood.

Until comparatively recent years, the aphorism "Once a leper, always a leper" was sufficient to quench all hope in the afflicted and to bring consternation to family, friends and community. Within a generation, however, improved therapeutic measures and more concentrated and national consideration from scientists have led to the conclusion that the lot of a leper is not necessarily hopeless, and each year increasing numbers of patients are being discharged from leprosariums, either as "cured," or are paroled as no longer a menace to public health.

As research has continued, a more nearly humane view is being taken of the relative danger of leprosy in a community. That some danger exists, must be admitted, for "leprosy begets leprosy"; that the danger justifies the terror which sometimes pervades a neighborhood, upon the public announcement of the discovery of a leper, cannot be admitted.

Barely fifty years ago, the discovery of the causative agent of leprosy, the "leprosy bacillus," by the Norwegian scientist, G. Armauer Hansen, cleared the way for removal, from the sufficiently evil name of leprosy, of a number of similar but essentially different diseases; and the diagnosis of leprosy today is rarely made, even by an experienced physician, until the leprosy bacillus has been found in the suspected patient. Leprosy as it is now recognized differs in no important respect from true leprosy of centuries past, save that, by differentiation from unrelated conditions, a clearer conception of the disease has been obtained.

The origin of leprosy in the United States has not been conclusively demonstrated. No evidence of its existence prior to the arrival of Columbus has been found in the North or South American continents. The disease appears to have manifested itself almost coincidently with the early settlements and to have, in a measure, progressed with them.

Cartagena, a port of what is now the territory of the Republic of Colombia, was the center of the slave markets of the Spanish Main; conceivably, therefore, this port should soon have become a focus of leprosy on the continent; and it was in Cartagena that, early in the seventeenth century, the first leprosarium of the New World was established; the first leper of sufficient prominence to receive mention in the history of the New World, however, was Gonsalo Jimenez de Quesada, the founder of the city of Bogota, Colombia, who was declared a leper in 1573.

Similarly, New Orleans, which became an important center in slave traffic, also became an early focus of leprosy, and it is of interest that, in 1778, the disease was considered of such importance as to require the construction of a special hospital for the exclusive care of leprous patients. As the settlers, and later commerce, proceeded up the Mississippi Valley, leprosy seems to have followed, slowly but inexorably; a current map of old and recent leprous foci

shows the affected towns spreading fan-like above New Orleans.

Not all of the present-day indigenous leprosy in the Valley can be properly charged to slave traffic; some lepers probably were among the early voyagers. It seems not illogical to include, as propagators of the disease, certain French settlers who came from the Province of New Brunswick, Canada, in 1765, and established themselves in Louisiana. Tradition, if not history, traces leprosy in New Brunswick to a French vessel which had been to the Levant trading and which was wrecked at the mouth of the Miramichi river in 1758. It is said that infected clothing was distributed among the fishermen, and that the vessel had among her crew Lascars or some Orientals who were leprous. Some of the Acadian families were known to have been leprous as early as 1815. Several Louisiana families, directly descended from the Acadians, continue to be afflicted with leprosy.

Another focus of leprosy was established in the Great Lakes region by immigrants from Norway and Sweden. This focus which, in 1897, numbered 168 cases, has gradually dwindled to an insignificant number.

U. S. PUBLIC HEALTH SERVICE.
Washington, D. C.

The Wassermann Reaction

THE Wassermann reaction is an independent symptom—a manifestation of the same value as the syphilitic gumma, the rash, etc. Eliciting this reaction is not equivalent to the demonstration of syphilis, but makes evident one manifestation of this infection. If it is positive, the Wassermann test is merely one argument in favor of the presence of the treponema, but nothing more. If it is negative, we are never authorized to exclude syphilis, nor can the variations of the reaction during treatment guide it absolutely.

Too many syphilologists pay regard to the Wassermann reaction alone. Measuring syphilis by this or any other serologic reaction is a biologic and clinical error. A negative serologic reaction signifies nothing, either for diagnosis or treatment.

A positive reaction is a sign in favor of syphilis, but only on one of the two following conditions: Either it supports one or more of the clinical signs or, if isolated, it should be remarkable by its tenacity and one must make sure that it has not its origin in one of the diseases known to be able to give a positive serologic reaction.

R. STEWART MACARTHUR, M.D.
Los Angeles, Calif.

Psychic Phenomena

WHATEVER view one takes as to the origin or causation of psychic phenomena, the medium still remains a piece of very delicate human mechanism that requires handling more skillfully than any instrument of precision ever invented. Anything can be done with a good medium, if it is done in a proper manner. If an investigator thinks he is dealing with a mass of screws and levers, instead of a hyper-sensitive human personality or ego, he will arrive nowhere.

"I know of some hundreds of mediums who habitually use fraud in all the great cities of the world, preying upon gullible clients. But I also know of others who do not do these things.

"There is an immense amount of fraud, both conscious and unconscious, in the production of psychic phenomena. There are charlatans of both sexes who for many years have habitually sucked their clients dry of money—and of something more valuable than money—of faith.

"These men and women will in the near future find that the gaol gates gape for such as they—and the people who will send them there will be the colleges of psychic science now springing up in London and elsewhere, who have already their 'black lists.'

"For there is today a science of psychic phenomena, which engages the attention of increasing numbers of scientists, both psychologists and physicists, of the first rank, throughout the world.

"It is these men who will eliminate the fraudulent medium and set this science by the side of the others upon a firm basis of evidence. For there can be no other scientific basis.

"One is led to the conclusion, purely on the evidence, that, although there still exists a formidable amount of fraud among those who profess to produce phenomena, there are also those who do produce such phenomena, genuinely.

"Within the next year it will be found that at least half a dozen scientists of high

rank, known to the writer, will give public adherence to this last statement."

HARRY PRICE

In *Psychic Research*, March, 1930.

The Scope and Aim of the Committee on the Costs of Medical Care

AT THE spring meeting of the Committee on the Cost of Medical Care in Washington, May second and third, 1930, a special committee of private practitioners was appointed to consider the relation of the committee to the private practitioners of the country.

It was clearly recognized by all present at the spring meeting that the committee has undertaken a program of studies which in its scope goes far beyond that part of the cost of medical care which physicians provide. The expense of several other kinds of service now looms large in the total cost of many illnesses. In addition, special emphasis was given at the meeting to the question of the adequacy of the various services available in a community. Finally, the committee adopted a statement of three fundamental principles proposed by the Chairman, which should go a long way toward reassuring those who have been apprehensive regarding the nature of the committee's ultimate recommendations.

The committee is interested in far more than the physician's bill, which, in many instances, is considerably less than half the total cost of illness. Hospital care, nursing, dentistry, laboratory examinations, and medicines often involve considerable expense. It is also becoming apparent that a great deal of money is being spent for useless medicines and for various irregular forms of treatment which do the patient no good or which may result in positive harm.

In order to indicate clearly the broad scope of the committee's work, it was decided at the spring meeting to make a slight change in its name. The word "cost" is to be changed to "costs."

One vital problem before this committee is the determination of what is "reasonably adequate care." In many cases of obscure disorders and serious illness, expensive facilities are essential. Presumably, there must be available in the community well trained general practitioners, certain specialists, dentists, nurses, hospitals and health agencies, trained and well equipped to do their part in providing all the care that the individual may need.

Dr. Ray Lyman Wilbur, Chairman of the committee, proposed at the meeting May 2nd a statement of three fundamental principles for the consideration of the committee. These will be of special interest to the physicians and dentists. They follow:

FUNDAMENTAL PRINCIPLES

1.—*The personal relation between physician and patient must be preserved in any effective system of medical service.*

Medical service is and doubtless, by its very nature, must remain a distinctly personal service. Even in this age of standardized commodities for the table, ready-to-wear clothing, and interchangeable spare parts for all types of machines, there has been no plan suggested for the reduction of medical diagnosis and treatment to basic units which can be ordered from travelling salesmen or acquired through correspondence courses. The physician must see his patient and see him, in many cases, over an extended period of time if the diagnosis and treatment are to achieve the greatest possible accuracy and efficiency. There is no substitute for personal observation.

Man is not a standardized machine and each individual reacts to the conditions of life in a manner in some respects unique in the treatment of disease this individual variation is a factor of great significance and can receive due consideration only when the practitioner has known the patient for a considerable time and maintains a personal relation with the patient.

2.—*The concept of medical service of the community should include a systematic and intensive use of preventive measures in private practice and effective support of preventive measures in public health work.*

The cost of adequate curative treatment is now high and may continue to increase as expensive procedures, resulting from scientific progress, become more widely used. Sickness, in addition, involves other personal and social costs, some of which cannot be measured in monetary terms.

The outstanding achievements in scientific medicine have been made in the preventive rather than the curative field. Knowledge now available for the control of malaria, tuberculosis, smallpox, diphtheria, pellagra, typhoid fever, hookworm disease, and goiter, if effectively applied, would make unnecessary a considerable proportion of the present expense for the cure of sickness.

3.—*The medical service of a community should include the necessary facilities for adequate diagnosis and treatment.*

From the standpoint of effective diagnosis, many diseases, such as tuberculosis, cannot be recognized promptly in their early stages without the aid of elaborate technical equipment. From the standpoint of adequate therapy, if the best of modern technic is not immediately available, complete cures are either delayed or rendered impossible of attainment. To cite a specific illustration of the improvement of modern therapeutic procedures over those of ten years ago, the time required for treatment of fractures of the hip, and the percentage of permanent invalidity resulting from that injury have each been reduced by more than half.

We cannot be content with anything except the best possible service that modern science can provide and it is therefore imperative that modern scientific equipment for the diagnosis and treatment of disease be available to the practitioners of medicine in every community.

Special Committee of Private Practitioners
STEWART R. ROBERTS, M.D., Chairman

Iodoform in Buboes

I *HAVE* found iodoform the best means to a rapid cure in suppurating buboes. It does not act like a caustic, but must be kept in contact with the tissues for some time.

For injection, the iodoform is incorporated, to the extent of 10 to 15 percent, in vaseline (petrolatum), which is warmed on a water-bath before use, to render the mixture liquid. The following is also a good formula: Iodoform, 1.0 Gm.; camphor, 3 Gm.; olive oil, 100 cc.

The bubo must show complete fluctuation before the treatment is applied. A puncture, as small as possible, is made with a bistoury, to evacuate the pus. With a conical-tipped, glass syringe, the warmed petrolatum-iodoform paste is injected (usually 4 or 5 cc), the tip of the syringe being held in place for a few minutes, to permit the petrolatum to solidify. It is advisable to close the wound with cotton and collodion.

Under this treatment, pain soon ceases and the patient is generally well within a week.

EDWARD PODOLSKY, M.D.
Brooklyn, N. Y.

USE OR LOSE

Unfathomable are the possibilities of accomplishment inert in every mind. Real capabilities of doing transcend what you actually do, and your latent ability is immeasurably greater than the part you put to use. Idling away in your mind are ungeared treasures of power—power, that might lift you from obscurity; power that might write your name indelibly across life's record page. But these unused pathfinders to opportunity have been given no chance to prove their presence; have been shunted from use through indolence; have become overgrown with the rubbish of indifference and misdirected effort. Remember, a talent's use assures its ever-increasing growth; but unused talents have as their sole destroyers, neglect and the passing years.—JAS. A. WORSHAM.

THE LEISURE HOUR

A Flag of Civilization

HUMANITY in divers ways is striving for peace, and everyone in his own heart, realizes that this constructive work is a true prophecy of a new era.

The fact remains, however, that the shells of one cannon can destroy the greatest treasures of art and science. We deplore the loss of the library of Louvain and the unreplaceable loveliness of the cathedral of Rheims; we remember the beautiful treasures of private collections which perished during the world's misunderstandings. We do not, however, wish to inscribe above them words of enmity; let us simply say, "Destroyed by human errors, and recreated by human hope." Nevertheless, errors in this or any other form may be repeated, and other precious milestones of human achievement can be destroyed.

Against such errors of ignorance we should take immediate measures, even though these may be only preliminary. But even in such measures of safeguarding, some very successful steps can be made. No one can deny that the flag of the Red Cross proved to be of immeasurable value and reminded the world of humanitarianism and compassion.

For this reason, a plan for an international Peace Pact, which would protect all treasures of art and science through an *international flag*, has been outlined by the Roerich Museum, for presentation, through America, to all foreign governments. The purpose of the project, which has been submitted to the State Department and the Committee on Foreign Relations, is to prevent the repetition of the atrocities of the last war, on cathedrals, museums, libraries and other lasting memorials of the creations of the past.

It is the plan of the project to create a flag which will be respected as international and neutral territory, this to be raised above museums, cathedrals, libraries, art galleries, universities and other cultural centers.

When the idea of an international cultural flag was first propounded, we were not surprised to find that it met with unanimous interest and enthusiasm. Experienced statesmen wondered why it had not been thought of before. When we asked our honorary advisors, Dr. George Chklaver and Professor Albert Geouffre de la Pradelle, to frame this idea into an international formula, we received not only a splendidly formulated project of international agreement, but also many answers full of pan-human sympathy.

This international flag for the protection of beauty and science would not in any way endanger any interests nor lead to misunderstandings. On the contrary, it elevates the universal understanding of evolutionary discoveries, as though new human values had been created and we were moving on to a path of progress and peace. Above all else, this guardian of peace reminds one of the necessity for impressing cultural treasures in the world annals. This is not difficult, and in many countries, it is already accomplished, although there are gaps, and each enrichment in the universal consciousness must be greeted. As the Red Cross flag needs no explanation to even the most uncultured mind, so does this new flag, guardian of cultural treasures, speak for itself. It is simple enough to explain, even to a barbarian, the importance of safeguarding art and science.

We often repeat that the cornerstone of the future civilization rests upon beauty and knowledge. Now we must act upon this thought and act quickly. The League of Nations, which has progressed toward international harmony, will not be opposed

to this flag, for it expresses their aims of a world unity.

That the idea was originally conceived in the United States is not an accident. By its geographical position, this country is least personally affected by such measures of protection. Hence, this proposition comes from a nation whose art treasures are in no particular danger, illustrating the better that this flag is a symbol of peace; not of one country, but of civilization as a whole.

The flag designed for this project has three spheres within a circle, on a white ground—symbol of eternity and unity. Although I do not know when this banner may wave above all the world's cultural institutions, the seed is already sown. Already it has attracted many great minds and travels from heart to heart, spreading once again peace and goodwill among men.

It is imperative to take immediate measures to preserve the noble heritage of our past for a glorious posterity. This can only come if all countries pledge themselves to protect the creations of culture which, after all, belong to no one nation, but to the world. In this way we may create the next vital step for a universal culture and peace.

PROFESSOR NICHOLAS ROERICH

New York, N. Y.

An Ideal Vacation

Mrs. C., the wife of an ardent lover of the "great outdoors" went with her husband on one of his trips and wrote home like this:

"First I made costumes to keep from being eaten alive by mosquitoes, green flies and fleas; then we got up in the middle of the night and took a train just as far as it would go; then we climbed into a rickety old "Lizzie" and rode until it refused to jump any more holes in the road; then we got into a boat and followed a winding stream until we came to its source; and then we walked until we dropped down dead—and—Bill is perfectly happy."

Brief explanation of the crime wave: Nobody gives a darn. — *Fountain Inn Tribune.*

The Doctor

We cannot count how many miles he goes
Through storm and cold and loneliness to bear
The torch of life to one he scarcely knows,
And who his leisure hour may never share.
He speeds through many streets. On either side
The lamps shine out upon the driving snow.
The logs are burning in each fireplace wide,
And men find comfort in their warming glow.

But not for him the pipe and easy chair;
The book perused beneath the rosy light,
For if by chance he stops a moment there,
The telephone will drive him through the night.
His love must far exceed his hope of gain
Who gives his life to keep us free from pain.

ANNE CAMPBELL, in *Detroit News.*

A Loanly Stenog

A new clerk, dictating a few days ago, was in doubt as to the use of a certain phrase, so he said to the stenographer:

"Do you retire a loan?" and the wistful-eyed one replied rather sleepily:

"No, I sleep with mamma."

A New Infestation

Micky came home from school sniffling.

"You've been licked," said his mother.

"I ain't," said Micky. "There was a doctor at school this mornin' examined us, and he said I had ad'noids."

"Phwat's thim?" asked his mother.

"They're things in your head as has to be taken out," answered Micky.

"It's a dom lie," angrily exploded his mother. "I've germicidal soaped and fine-combed y're head ivery Saturday night and niver an ad'noid did I find."—*Pharmacal Advance.*

Physiologically Tested

A London chemist has been trying the effect of a new tonic on a mouse. He was more than satisfied, we understand, when the little creature put its tongue out at the cat.—*London Humorist.*

Diagnostic Pointers

Backache and X-Rays

Numerous interesting reflex conditions may produce backache, in which an x-ray examination is helpful. Among them are chronic appendicitis, gall-stones or gall-bladder infections, spastic constipation, renal calculus, retroperitoneal calcified glands, abdominal ptosis, mucous colitis, carcinoma of the rectum, pregnancy, uterine fibroid, ovarian cyst, prostatic calculi and renal ptosis. About one-tenth of patients who are examined for chronic disease complain of backache.—Dr. M. J. Hubeny, of Chicago, in *Radiolog. Rev.*, Dec., 1929.

Use of the Catheter

To determine the frequency with which catheterization is necessary in routine hospital work, 300 surgical cases were reviewed. No matter what type of operation, all patients entering hospital had over 10 percent liability to developing retention requiring the use of the catherer. This liability is directly proportional to the proximity of the operation to the bladder.—Dr. L. R. Kaufman, New York, in *Am. J. Surg.*, Dec., 1929.

Syphilitic Teeth

There is nothing characteristic of syphilis about the first teeth. It is only the second teeth which show anything pathognomonic. —Dr. J. L. Morse, in *New England J. Med.*, Aug. 22, 1929.

Painful Feet

At the New Jersey Orthopedic Dispensary, Drs. R. E. Humphries and G. H. Taylor have been studying foot conditions for a number of years and in *Am. J. Surg.*, Dec., 1929, the results of 1000 cases are summarized.

There were 299 males and 701 females. The most common cause of painful feet is arthritis, and of 766 patients who had pains in the joints of their feet, 592 had pains in other joints also. Three hundred and forty (340) patients with painful feet had gastro-intestinal disorders.

The authors call attention to the necessity for a thorough physical examination of all patients with painful feet. Arches and special shoes are contraindicated, because they relieve pain without relieving the cause.

Sex of Children After Single Oophorectomy

Following a ruptured tubal pregnancy and removal of the right tube and ovary, the woman gave birth successively to 5 boys. Five males from the left tube and ovary, as in this case, suggest the possibility of each ovary giving rise to separate sex. The father of these males is one of six boys born consecutively, but all the boys in the present case resembled the maternal grandfather.—Dr. J A. Harger, Chicago, in *Am. J. Obst. & Gynec.*, Dec., 1929.

Climate and Functional Body Disturbances

Definite disturbances of body function may result from too prolonged and severe moist heat, and such disturbances are probably based on hypofunctioning adrenal glands. The disturbances, which are generally of a gastro-enteritic nature, may be relieved by epinephrin medication (1 mgm. of epinephrin in 30 percent glucose solution, half an hour before each meal).—Dr. C. A. Mills of Cincinnati, in *Ohio St. M. J.*, Mar., 1930.

Obesity

Obesity is always caused by an inflow of energy (food) that is greater than the outflow. Experimental investigation has

shown that obesity is never directly caused by abnormal metabolism, but that it is always due to food habits not adjusted to the metabolic requirements—either the ingestion of more food than is normally needed or the failure to reduce the intake in response to a lowered requirement.—L. H. NEWBURN and MARGARET W. JOHNSON, in *J. Clin. Invest.*, Feb. 20, 1930.

Abdominal Distension

There is a marked difference between the distended abdomen of peritonitis and that of obstruction. In peritonitis there may not be much distension, but what there is is diffuse, smooth and, as it were, lifeless, due to the rigidity of the abdominal muscles.

In obstruction, the abdominal muscles are not rigid and respiratory movements may be seen. Distension may be localized or general and one should particularly look for the parallel, transverse, distended coils of small intestine, to which the name of "ladder distension" has been given, and which is looked upon as characteristic of obstruction toward the lower end of the ileum.—DR. H. W. CARSON, in *Practitioner*, Lond., Dec., 1929.

Mastoid Disease Without Otorrhea

Extensive mastoid disease can occur where there is not and has never been any aural discharge. Fifteen such cases were noted in a series of about 300 mastoid operations, but this ratio is probably above the average. These cases may be regarded as primary acute otitis; that is, neither recurrent nor chronic, and there was no history of a discharge, either recent or remote. — DR. E. WATSON-WILLIAMS, Bristol, Eng., in *Brit. M. J.*, Dec. 14, 1929.

Arterial Hypertension

In frequent instances a diagnosis of hypertensive disease can be made by a retinal examination, before any other marked clinical evidence is present in the body.—DR. C. COWIN, Los Angeles, in *M. J. & Record*, Feb. 19, 1930.

Trichinosis

The eating of uninspected and uncooked pork products is sometimes followed by infestation with *Trichinella spiralis*.

In an outbreak of 20 cases, with one death, 13 resulted from eating improperly prepared (uninspected) "summer sausage" and 7 from the consumption of raw pork sausage. Both of these products were prepared by the same independent butcher who, himself, was one of the cases.

The incubation period varied from 4 to 20 days (average, 14 days). The chief symptoms were edema of the eyes and face, myositis and marked eosinophilia (in all but 4 cases). In most of the cases, a tentative early diagnosis of typhoid or malaria was made.—J. C. WILLETT, *D.V.M.* and C. L. PFAN, A.B., in *J.A.M.A.*, April 5, 1930.

Stomachs and Noses

In studying gastrointestinal roentgenograms, remember that there is no such thing as a typical or average stomach. Remember that what is perfectly normal in one man may be decidedly abnormal in another, and study the *whole patient* before forming an impression.

A long and irregular stomach, *which causes no symptoms*, has no more pathologic significance than a long and irregular nose. —DR. WILBUR H. GILMORE, Chicago.

Heart Disease and Pregnancy

Study of the statistics of the Boston Lying-In Hospital shows that the mortality of cardiac disease in pregnancy varies from zero to about 20 percent, with an average of perhaps 5 to 10 percent. This indicates that 90 percent or more of these patients survive. —DR. W. D. REID, in *Am. J. Obstet. & Gynec.*, Jan., 1930.

Eosinophilia in Allergy

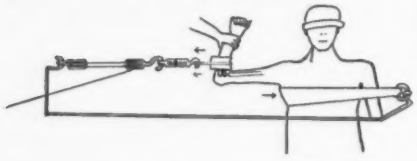
Eosinophilia is a rather common finding in cases of allergic disease.—DR. NOBLE W. JONES, Portland, Ore.

Current Medical Literature

Reduction of Fractures and Dislocations of the Long Bones

Reduction of fractures of the long bones (with displacement of the fragments) and the reduction of many dislocations can be accomplished with relative ease if the muscles are first relaxed by traction and countertraction.

The technic is far more important than the apparatus. There is, however, a type of traction not available in all fracture-reducing apparatus; namely, the gradual and rhythmic application of force which may be increased or decreased instantly at the will of the surgeon.



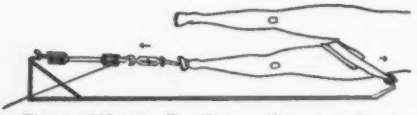


Fig. 1. (Above)—Traction on the upper forearm, elbow flexed sightly more than 90 degrees. Countertraction on the chest. The pad and the pull should be as close to the elbow as possible. An assistant maintains the flexion of the elbow.

Fig. 2. (Below)—Traction on the ankle, counter traction on the perineum, for fractures of the lower leg. A Delbet knot is applied to the ankle or a webbing strap over felt.

The apparatus, devised by Dr. Robt. Soutter and reported in J.A.M.A., May 17, 1930, consists of a rod 80 inches long with a right angle bent at one end. At the end of this right angle is a hook and at the other end of the rod is a hook. The rod is made up of several pieces so that it may be taken apart and put in a small case. Each section is about 20 inches long. It is made of tubular steel and not of iron piping, as the latter does not stand the strain. Each tube is fastened to the next by a steel rod which is inserted in the tube. The steel rod should not bend and should be very strong.

There are two webbing straps 46 inches long and 3½ inches wide, with a heavy steel ring in each end. The webbing should be strong and double and the ring should be stitched solidly so that the stitching will not rip.

There is a spring balance that will measure 100 pounds and there are two double-block pulleys, with heavy cord. These block pulleys are 3 inches long and 1½ inches broad and there are rings for hooks at each end. Unbleached cotton is used for making a Delbet knot.

Fig. 3.—Traction on the upper forearm; countertraction on the chest.

For webbing traction, the doctor uses heavy webbing 1 inch broad and 5 feet long, made of three thicknesses of webbing stitched firmly together. This is applied round the ankle and foot over felt, the pad used being 4 inches broad and 20 inches long. The unbleached cotton may be used over the foot and ankle instead of the webbing. The Delbet knot has also been applied to the wrist when it is necessary to apply traction on the forearm.

In an average adult case, under an anesthetic, he uses a small amount of traction such as 10 pounds, increasing it in three minutes to 15 pounds, and, at three minute intervals, to 20 or 25 pounds (measured by a spring balance), the maximum pull being maintained for a definite period of from fifteen to thirty minutes, depending on the patient. The maximum in some instances is 15 pounds, in others more.

Heredity in Mental Disease

An extensive study of the factors of evolution, as affecting the heredity of mental disease, is presented by Dr. L. J. Doshay, in *M. J. and Record*, Feb. 5 and 19 and Mar. 5, 1930.

The fear of insanity, because of the previous occurrence of nervous disease in an individual's family, is a potent factor. Insanity carries such a pronounced stigma, because of its popular association with heredity and degeneracy, that one who is unfortunate enough to be related to an insane person is constantly reminded of this ominous inheritance in books, press and conversation, and as a result his morale is steadily undermined.

The popular belief in mental-disease heredity originated in antiquity with our lay ancestors, from a common observation of the greater incidence of insanity in psychotic families. No further evidence has, however, up to the present time, been produced for the belief in mental-

disease heredity, aside from superficial genetic speculations based on a similar observation of the greater frequency of insanity in insane families.

The author reviews the various theories on mental disease inheritance. He shows that they contradict each other and that no basis for heredity has been established, although it is widely accepted today as a fact.

This unwarranted belief in the inheritance of mental disease contributes materially to the ever-increasing numbers of the mentally afflicted since: (a) It serves to demoralize the millions suffering from an insanity complex; (b) it serves to maintain the stigma attached to mental disease, which is responsible for much mental ill-health; (c) it serves to discourage professional and lay interest and cooperation in mental health work, because the people's minds are poisoned by a firm conviction that mental disease is inherited and, therefore, fixed and incurable.

The researches of Castle, Heron and other foremost genetic students prove that mental diseases are not inherited according to Mendelian laws, in any manner or form.

The verified evolutionary laws of selection and survival of the "fittest" contradict any possibility of mental disease inheritance, because, as a very inferior regressive trait, if inherited, it should have caused the disappearance or marked decline of those harboring that trait; but, on the contrary, we find them ever on the increase.

The greater frequency of insanity in psychotic families is due to the overbalance of the "mental equation" in favor of disease, by the greater stress factor and weaker psychic resistance.

Mental disease is not due to any inherited disposition, because of mental ill health in relatives or ancestors, but is due entirely to unhealthy environmental agencies.

If people are reeducated to this newer understanding, the stigma attached to mental disease will disappear and they will lend unlimited cooperation for mental health and prophylaxis that will result in the control of the greatest scourge that has afflicted mankind from time immemorial.

The Toxic Colon

Under the term "toxic colon," Dr. M. J. Synnott, of Montclair, N. J., in *M. J. & Record*, Feb. 5, 1930, includes a large number of variously named abdominal conditions; intestinal stasis, autointoxication, etc. In all these the underlying pathology is the same and the toxic colon is the result, in most instances, of bacterial invasion from foci higher up, very often in the oral cavity.

Prophylaxis is the most important consideration. If diseased teeth and tonsils are removed early, before serious damage has been done lower down in the intestinal tract, and if patients are taught the essential principles of a well balanced diet, diseases and functional disturbances of the colon will be less common.

In treating the toxic colon, rest and measures to improve circulation and nutrition, such as diathermy, Morse wave and massage, are the important factors. Under rest is included a diet which rests the musculature of the colon. Roughage is to be avoided.

With proper treatment by the physician and perseverance and cooperation on the part of the patient, the most desperate case of toxic colon will be benefited and a satisfactory percentage of patients will recover.

Mechanical Factors in Constipation

In treating constipation, a careful investigation of the rectum and sigmoid is essential.

In J.A.M.A., Feb. 8, 1930, Dr. Dudley Smith, of San Francisco, calls attention to the following conditions which may be mechanical causes of constipation: Hypertrophied sphincter; hemorrhoids; pressure on rectum by some neighbouring organ; prolapse of rectum; infection of mucosa; diverticulitis; stricture; proctostasis; lacerated perineum; abnormal abdominal muscles; adhesions; cancer; abnormal Houston's valves.

If any such condition is discovered it should be corrected.

Tonsillectomy Under Local Anesthesia

In *Eye, Ear, Nose and Throat Monthly*, Feb., 1930, Dr. J. B. H. Waring, of Cincinnati, pleads for a more general use of local anesthesia in performing tonsillectomy.

In his own practice Dr. Waring uses the suction method of enucleation. Half an hour before operation, the adult patient is given 3 grains (0.2 Gm.) of phenobarbital, by mouth, as a sedative. The details of operation are fully explained to the patient.

The fauces and pillars are swabbed with 5-percent cocaine solution. Then the right tonsil is blocked off with successive peritonsillar injections of ½-percent procaine, 1-percent antipyrin, and 1-percent (1:1,000) epinephrin. After a couple of seconds the other tonsil is injected. From 10 to 20 cc. of the procaine combination is used for each tonsil. Then finally the throat is again gone over with 5-percent cocaine.

The author states that the tonsils can be cleanly and perfectly removed without any pain to the patient and practically without fright or surgical shock: the throat is left in perfect functioning condition; there is no hemorrhage; no danger of aspiration pneumonia or pulmonary abscess; no nausea or vomiting and a very short convalescence.

Mastoidectomy in Acute Mastoiditis

The principal object of a mastoidectomy is to save life. The mortality is rather less than from appendectomy. The operation should not be advised unless it is felt that the patient is safer operated upon than not, except that, in certain cases in which an aural discharge tends to become chronic and the mastoid tenderness is slowly subsiding, it may seem that an operation will more quickly and certainly stop further progress of the disease and thus conserve hearing.

Operation should be postponed at least four days or a week after the onset of mastoid symptoms, unless it is felt that the mastoiditis is of a fulminating type, in which the infection is rapidly extending and the prostration increasing. This

150 or over there was a definite increase in the first, it gives the attending physician an opportunity actually to determine whether the disease shows any tendency to yield to conservative treatment; and, secondarily, it allows the mastoid tissues to build up a certain resistance to the spread of infection, when the operation can be performed more safely.—Dr. G. O. Cummings, Portland, Me., in *M. J. and Record*, Mar. 19, 1930.

Sinusitis in Asthmatic Children

A detailed study of 100 asthmatic children (60 males, 40 females) in the Asthma Clinic of the Department of Pediatrics, Post-Graduate Hospital, New York, has been made by Dr. R. Chobot and the results published in *Am. J. Dis. Child.*, Feb., 1930.

The conclusions reached show that the incidence of sinus infection, both in asthmatic and normal children, is much higher than is usually believed.

Fourteen (14) percent of the cases studied had their first attack of asthma in the first year of life, and 19 percent in the second year. Fifteen (15) percent of the patients had negative skin reactions. This 15 percent was studied and a positive family history was obtained in 5 cases.

Fifteen (15) percent of the sensitive patients had their first attack of asthma in the first year and 23 percent in the second year. Forty-one (41) percent of all patients had sinus infections.

Treatment should be conservative but puncture and irrigation should be carried out when conservative measures fail.

Hypertension in Young Male Adults

As the results of investigation, Dr. R. S. Palmer, of Boston, reports in the *J.A.M.A.*, Mar. 8, 1930, as follows:

In 3,598 records of routine physical examinations, done in the department of hygiene at Harvard University, it was found that slightly more than 10 percent of those examined showed systolic pressures above 140 mm. of mercury; and 2.25 percent of the whole group showed systolic pressures of 150 or over, without other abnormalities. The urine examination in all instances was negative.

The systolic pressures were all more than 10 percent above the level expected when height, weight and age were taken into consideration. Approximately half of these individuals showed diastolic pressures more than 10 percent above the calculated normal, while only one-fourth of a normal control group showed such elevations in the diastolic pressure.

A larger proportion of the nervous or neurotic types was found among those showing systolic pressures above 140 than among those showing systolic pressures below this level.

There was no correlation between the infectious diseases or constipation and hypertension in this series, as compared with normal series of equal size.

There was a slight increase in those overweight, as compared with the normal series, in the subjects showing systolic pressures of from 140 to 150, while in those showing pressures of 150 or over there was a definite increase in the proportion of both those overweight and those underweight.

One hundred and fifteen (115) persons—66 from the normal control series and 49 from those showing hypertension—were followed, after an interval of ten years. Of the 66 normal individuals, 3, or 4.54 percent, had systolic pressures over 140 and one had a systolic pressure of 150. Of 49 subjects who showed systolic pressures over 140 at the first examination, 12.2 percent showed systolic pressures between 140 and 150 after ten years and 10.2 percent showed systolic pressures of 150 or over, the highest being 180. Thus, if hypertension is found at 20 years of age, it is somewhat more likely to be found persistent after ten years than it is to develop *de novo* during this interval.

Those showing hypertension at the original examination ten years or more earlier, when followed give a history of vasomotor symptoms in one-fourth of the cases, as compared with such a history in one-seventh of the cases followed from the normal group.

The incidence of cardiovascular disease in the family histories of the normal control and the hypertensive groups was approximately the same.

Arsphenamine Versus Neoarsphenamine

Syphilologists everywhere are divided regarding the comparative therapeutic value of arsphenamine and neoarsphenamine. A study of the literature shows that by far the larger number of foreign syphilologists do not see any risk in the use of neoarsphenamine. On the other hand, the convenience of the administration of neoarsphenamine is an advantage that cannot be easily disposed of; it is important that the administration of antisyphilitic medication be made easy for every physician.

In the United States, Schamberg expressed the following view regarding neoarsphenamine at the last meeting of the American Dermatological Association: The difference in therapeutic activity between arsphenamine and neoarsphenamine can be made up by the frequency, dosage or duration of treatment with neoarsphenamine. Neoarsphenamine is readily oxidized by heat or unduly prolonged exposure to air, but a proper technic and immediate use after preparation obviates this disadvantage. In 20,000 neoarsphenamine injections (in the author's clinic) there have been no fatalities, no jaundice nor any serious complication.— Editorial, *J. Chemotherapy*, Jan., 1930.

Citric Acid Milk in Infant Feeding

The feeding of infants with citric-acid-modified cow's milk has been in use in Germany for some years and the clinical reports indicate that normal infants thrive upon it and that infants afflicted with nutritional disturbances respond well to it. The incidence of rickets in infants fed with citric acid milk was low.

In *Am. J. Dis. Child.*, Feb., 1930, Drs. J. E. Gonce and H. L. Templeton report that, since Sept., 1928, all infants in the pediatric wards of the Wisconsin General Hospital who needed

complemental feeding were put on citric acid milk. Four (4) Gm. of dehydrated citric acid is added to 1 quart of milk which has been boiled for 5 minutes and then cooled to room temperature. This was found to be the optimum mixture and, in appearance, it is similar to lactic acid milk. It keeps the curds in the infant's stomach small, the average being less than 1 mm. in diameter.

Citric acid milk is well tolerated by infants and, of itself, never caused vomiting. Infants fed upon it gain weight in excess of normal expectancy. The stools are of a pasty or firm consistency and are more numerous than those of infants fed on simple milk dilution mixtures. There is no toxic action on the kidneys.

Citric acid milk is equal to lactic acid milk in beneficial results and may take its place. It is very easily prepared and does not need ice.

Hints for the Professional Medical Witness

Speak distinctly in the simplest language that will convey your thought, and loud enough for the most distant juror to hear.

Never state what someone said or use the expression "I said to myself." This is considered hearsay.

Never make references to an insurance company in these civil suits in connection with money offered in settlement.

Always answer yes or no, if possible.

Do not attempt a detailed explanation of anything, unless requested to do so by the judge or attorneys.

It is convenient to have a few notes covering the diagnosis, prognosis, treatment and number of visits to house and office, charges for those visits and dates of the first and last visits, but not the original records.

Last, but not least, be prepared to answer any question, from a medical standpoint, having bearing on the case in question.—Dr. R. W. Henry, in *J. Nat. Med. Assn.*, Jan.-Mar., 1930.

Gastric Manifestations in Constitutional Inadequacy

In *Ann. Intern. Med.*, Apr., 1930, Dr. A. C. Clasen, of Kansas City, divides human types into two broad categories: the megalosplanchnic and the microsplanchnic. The megalosplanchnic has a broad, thick build; the stature is medium or less; body mass excessive; abdomen larger than trunk; upper abdomen larger than lower; and there is hypofunction of the thyroid or of thyroid and pituitary together. The bowel is large and long; the nervous system is sensitive. Microsplanchnics are of the longitudinal, thin type; they have short, small intestines.

The megalosplanchic has a large stomach. There is a large capacity for food; eating is slow; the stomach tonus is good; and gastric secretion is heavy. In the microsplanchnic the stomach is small; the food passes rapidly; secretion is diminished; and the tonus is poor.

Microsplanchnics show a tendency to gastro-intestinal dyspepsias and splanchnoptosis, pernicious anemia, stomach and duodenal ulcer and intestinal disorders.

The megalosplanchnic, thick-set type is characterized by a tendency to constipation, migraine, articular pains, asthenia and somnolence after meals.

The morphologic type of the patient should be studied in evaluating symptoms and treatment.

Autohemotherapy in Herpes Zoster

Autohemotherapy, says Dr. B. B. Beeson, of Chicago, in *Illinois M. J.*, Mar., 1930, is deserving of wider recognition in the treatment of herpes zoster, by reason of its simplicity, apparent freedom from serious reactions and because of its good effects.

Dr. Beeson treated 8 cases by this method and obtained an excellent result in 7. The usual dose was 10 cc. of autogenous blood, given every three or four days. In several patients the initial treatment entirely relieved the pain and brought about a quick evolution of the skin lesions. Three injections, given within 10 days, affected a complete cure in several severe cases.

The important thing in autohemotherapy is that it should be applied very early. If used late, neuralgia is apt to follow.

Acriflavine in Undulant (Malta) Fever

The identity of Bruce's *Bac. melitensis* (Malta fever) and Bang's *Bac. abortus* (abortion in animals) has been demonstrated.

In 1927, Izar and Mastroeni found that acriflavine had a considerable bacteridal influence on the *Brucella melitensis* in vitro. Clinically, they reported favorable results from the intravenous injection of 0.1 Gm. per kilo of body weight of acriflavine hydrochloride. Two or three injections were given and these authors felt that there was some vaccine effect from the killed germs, because of the increased agglutinating power of the blood of the patients.

In one case Izar had found that good results followed the true use of small enemas of acriflavine (0.2 to 0.3 Gm.).

Experimental work carried out by Edwards and Coffmann of the Georgia Experimental Station (Department of Animal Industry), by injection of acriflavine hydrochloride in cows infected with the Bacillus abortus, showed that within a year, the blood of these animals was losing its power to agglutinate the organism.

Three successive intravenous injections of acriflavine in physiologic solution, were given one week apart. The first injection was in a 1:500 dilution; the second in 1:350; and third in 1:200. The cows in group 1 received 100 cc. of the solution at each injection; group 2 received 150 cc.; and group 3, 200 cc.

All cows receiving the two larger doses bred and produced normal calves following a normal gestation period. All of these cows had previously aborted, and all had given positive reactions to the agglutination test.

Several clinical reports have appeared in the literature verifying the value of acriflavine hydrochloride injections in undulant fever. Abstracts of some of these reports appear in Clinical Medicine and Surgery, pp. 350, 771 and 850, 1929.

From the experimental work and the clinical results it would appear that, in undulant fever, acriflavine should be regarded as almost a specific. If administered with the necessary precautions it can do no harm.—Editorial, *J. Chemotherapy*, Jan., 1930.

Dietetics in the Light of Modern Scientific Research

It can be asserted that the chief factor in human deterioration in recent times is the unwise choice of food.

In *Bull. Battle Creek San.*, Apr., 1930, Dr. C. E. Stewart discusses the scientific principles underlying rational dieting.

The average normal individual requires sufficient food to furnish him a fuel value of about 2,600 calories daily, the proteins furnishing about 10 percent, the fats 30 percent and the carbohydrates 60 percent. The normal diet should contain a sufficient amount of bulky residue-containing foods to insure sufficient peristalsis to produce normal bowel movement.

The diet should contain a proper carbohydrate-fat ration to prevent the acetone type of acidosis, which is 2 to 1. Acidity of the urine is kept within limits by selecting a sufficient amount of alkaline foods.

The diet should contain minerals and vitamins in sufficient amounts.

The diet for the relief of intestinal stasis is simple. It should be sufficient in amount and contain an abundance of bulky food, which is provided in a diet containing a large amount of vegetables. A liberal amount of fruit should be taken.

Animal foods encourage putrefaction in the colon because they are high in protein. A quart of milk daily will supply a sufficient amount of complete protein so that meat and eggs can be left out of the diet entirely without in any way interfering with the patient's nutrition and at the same time facilitating the changing of the intestinal flora from the proteolytic to the aciduric type.

In general, fruits prevent acidosis; white breads, cereals and animal proteins encourage it. Vegetables and fruits usually supply adequate minerals and vitamins.*

Painful Heels

In young persons, pain in the heel is most frequently associated with the footwear. It may result from a corn caused by a projecting nail in the shoe heel, on which the heel presses, or a puckered insole or friction at the extreme back of the heel, high up above the insertion of the heel tendon. In the case of a heel corn, a single application of x-rays, about half a pastille dose, usually exterminates the corn and cures the pain; for heel-friction pain, the best thing is to apply a pad of felt ¼ inch thick at the inside of the back of the shoe.

For pain due to deep (tendo achillis) bursitis (other than tuberculous), make a lateral incision deep to the tendo achillis; dissect out the bursa entirely; and roughen the surface of bone on the back of the os calcis to promote its subsequent obliteration. The foot should be kept in severe plantar flexion for about three weeks. This gives a rapid and permanent cure.

Rupture of the tendo achillis is a serious accident. The proper treatment is to suture the tendon.

In the case of bone spurs in the heel, a heel cushion of some sort, with a hole or depression in its center, should be worn for some time, until all signs of inflammation are gone, before surgically removing the spur.—Dr. A. H. Todd, in *Practitioner*, Lond., Mar., 1930.

*This expresses the view of the extreme vegetarian school of thought. Many sound authorities on dietetics do not agree with this position.—Ed.

Fever of Unknown Origin

In the Peter Bent Brigham Hospital, Boston, 173 case of fever of unknown origin occurred in a total of 34,000 hospital admissions.

In *J.A.M.A.*, May 10, 1930, Drs. H. L. Alt and M. H. Barker report that they have reviewed the records of these 173 patients following discharge. Information was obtained in regard to 101.

Of 44 patients with fever of unknown origin, of less than ten days' duration, follow-up notes showed that 42 had not developed any associated pathologic condition; one later had mitral insufficiency and one pulmonary tuberculosis.

Of 57 patients who had prolonged fevers of unknown origin, lasting ten days or more, no cause for the fever was ever ascertained in 36 of them. Of this number, 2 had developed new complaints and five had died of an unknown cause. A positive diagnosis was ultimately established in 21 patients with prolonged fever. The majority of these had tuberculosis, rheumatic infection or malignant disease.

Serologic Tests for Syphilis not Infallible

At the Second Laboratory Conference on The Serodiagnosis of Syphilis, arranged by the Health Organization of the League of Nations and held at Copenhagen, the following are some of the resolutions (affecting all serologic tests) arrived at:

1.—That . . . serologic results may, notwithstanding the presence of a syphilitic infection, be negative in certain cases.

2.—That a positive reaction, in the absence of a clear history or of signs of syphilis, should, if only to exclude all possibility of error, never be accepted until a test of at least one more specimen has afforded the same results.

3.—That except in the case of a few well-defined pathologic conditions, syphilis is indicated with a degree of probability which closely approaches certainty, when several tests, performed according to different methods, give positive results.

As for the comparative value of various serologic tests, the Conference "is of the opinion that the best of the flocculation tests may be regarded as equal in value to the best of the . . . . Wassermann type," although "no less than the complement-fixation tests, these flocculation

methods are . . . . so extremely sensitive to the slightest differences in experimental conditions and subject to so many sources of error . . . . that they must be placed only in the hands of especially trained serologists. The Conference "recommends that, in order to secure the most reliable information to the clinician, at least two different serodiagnostic methods should be used."—From *J. Chemotherapy*, Jan., 1930.

The Medical Collections "Racket"

In *Med. Economics*, Apr., 1930, H. H. Field, warns doctors to be careful in signing contracts with medical fee-collecting agencies. The wording of these contracts has been changed in an insidious and not easily detected way, so that it is virtually impossible for a doctor whose accounts have been turned over for collection to secure any form of statement as to the accounts settled, much less ever to receive any portion of the money collected.

In an editorial in the same issue, Dr. H. Sheridan Baketel states that, to be safe, no doctor should have any thing to do with any agency without first making a personal investigation through the local Chamber of Commerce and by writing to the National Better Business Bureau, 383 Madison Avenue, New York, N. Y., to obtain reliable information in regard to the standing of the collecting agency. Plenty of time should be taken to investigate.

Epinephrin in Bronchial Asthma

In the severest possible type of bronchial asthma, that apparently offers nothing but a prompt fatal outcome, Dr. I. S. Kahn, of San Antonio, Tex., in *Ann. Intern. Med.*, May, 1930, affirms that it is possible to secure complete relief by the use of epinephrin in small doses, given intravenously, after the administration of the drug in large quantities in the ordinary manner and after morphine, given to the danger point, have completely failed.

The dosage used, in some cases treated by the author, was 2 and 3 minims of the 1:1,000 dilution, repeated every 30 to 45 minutes. The usual disagreeable epinephrin symptoms appear, but are transitory.

The author is unable to offer a satisfactory explanation why small doses of the drug, administered intravenously, succeed when large doses, given hypodermically, fail.

Colloidal Silver Treatment of Cancer

On the assumption that the lead treatment of cancer was based on its effect as a foreign colloid, Dr. W. S. Stone and associates, of New York City, considered that other metallic colloids, less toxic than lead, might have a beneficial effect, and colloidal silver was chosen as the experimental agent. The sterile colloidal silver used contained about .030 percent of silver, of which about one-tenth was ionic and the remainder colloidal. The results found as stated in *Ann. Intern. Med.*, May, 1930, were as follows:

1.—Five cases of inoperable cancer were selected for treatment by colloidal silver.

2.—The intravenous injection of colloidal silver solution provoked an immediate but temporary systemic reaction, consisting of chill, fever, nausea and vomiting. This constitutional reaction limited the amount of metallic colloid, injected at a single dose, to 30 milligrams.

3.—The introduction of the colloidal silver induced no discernible changes in the composition of the blood and urine. These findings contradicted the reports of other investigators that colloidal silver induced a hypoglycemia when administered intravenously.

4.—Microscopic study of one of the carcinomas removed at necropsy showed no histologic evidence of any influence of colloidal silver on the carcinoma cells or tumor stroma.

5.—There were two instances of temporary subjective improvement, which were probably due to psychic influence.

The Spastic Colon

Spastic colon is a fundamental disturbance of the colon, characterized by hypertonicity and, clinically, by a variety of symptoms, including *abdominal consciousness*.

In *Ann. Intern. Med.*, May, 1930,, Dr. H. Gauss, of Denver, states that the etiology is thought to be an underlying instability of the nervous system. The condition occurs commonly in women of the socalled "neurotic" type.

The essential mechanism of spastic colon is the hypertonicity. This may be initiated locally, by impulses originating in material lying within the lumen of the colon, or by impulses originating in other parts of the body, including the psychic processes, when the impulses are thought to be relayed to the colon through the sympathetic nervous system.

The common symptoms of spastic colon are: Constipation, abdominal consciousness, abdominal pain, flatulence and a tendency toward introspection.

Treatment aims to reduce the irritability and the hypertonicity. The following therapeutic agents are available: Rest in bed; a bland, non-irritating diet; intestinal lubrication; local antispasmodics, especially atropine; general sedatives, as bromides or the barbituric acid derivatives; local applications of hydrotherapy or physical therapy to the abdomen; and psychotherapy.

Boils

In *M. J. & Record*, Mar. 5, 1930, Dr. O. L. Levin, of New York, asserts that it is unnecessary and even unwise to incise a boil.

If the pathology of the lesion is borne in mind and rational physical and chemical measures are used to meet the clinical manifestations as they appear on the surface of the skin, there will result a rapid, painless life of the boil and recurrences rarely will be observed.

The development of a boil in its earliest stages may often be aborted by local applications of tincture of iodine, followed by an ointment containing 4-percent ammoniated mercury and 1-percent phenol. This application, being both antiseptic and anesthetic, may be used for 24 to 48 hours, when the lesion is usually under control.

When there is more congestion and pain, dressings saturated with 10-percent Burrow's solution (5 parts alum and 25 parts lead acetate, in 500 parts water) are employed.

A boil in the advanced stage calls for slightly different treatment. The use of a strong dressing, compounded of 20 minims (1.33 cc) of phenol and one grain (.065 Gm.) of bichloride of mercury in 1 ounce (32.0 Gm.) of diachylon ointment is suggested.

The wet dressing without any occlusive covering, alternating with the ointment should be continued until the resulting ulcer is clean and shows a tendency to heal.

When a boil has reached the stage of softening, liquefaction and fluctuation, but where the skin has not been ruptured so that pus can escape, an excellent procedure consists in the application to the summit of the lesion of a 20-percent salicylic acid plaster. It should be worn all day, and when renewed the adhesive material should be removed by bathing with alcohol and benzine.

For prevention of multiple infections and a chronic condition, the physician should: (1) induce a good general physical condition; (2) give rational treatment of the original boil; (3) prescribe proper hygiene of the adjacent skin; (4) prevent dissemination, either through the blood and lymph streams or by means of infected fingers, clothes and other materials.

Non-Surgical Treatment of Renal Tuberculosis

In *Arch. Phys. Therap., X-Ray, Rad.*, May, 1930, Dr. A. M. Crance, Geneva, N. Y., expresses the opinion that renal tuberculosis is a separate and distinct clinical entity, not secondary to a tuberculous focus elsewhere and that it originates from oral entrance, the most common cause being from raw milk. The infection is generally bilateral.

Except when a kidney is very badly diseased, septic and completely obstructed, surgery is not indicated and a patient is worse off after a nephrectomy.

The primary object in treatment is to increase the patient's general resistance by rest, by good food, by regular exposures to pure ultraviolet radiation (quartz tube) at least three times weekly, and by the constant use of cod-liver oil and other tonics, when necessary.

Consultations

The following general rules for guidance of consultants are proposed by Dr. E. J. Jasper, of Astoria, Ore., in *Northwest Med.*, Apr., 1930.

1.—Consultation should be private. Friends or relatives should not be in the room. Some consultants like to display a bombastic or overdone technic.

2.—Consultant should be given time and not be unexpectedly called into a case which might require deep study and deliberation.

3.—Medicines should not be changed abruptly by reason of calling in a consultant.

4.—If a surgeon is called, and an operation deemed advisable, the physician in charge should propose the operation. He may state, a little later, as the result of consultation, that an operation is deemed advisable.

5.—After consultation is held, the information should remain confidential. If members of the family or friends question the consultant, he should answer by stating, "I have given Dr. Blank all the information. He is in charge and will explain matters to you."

When the consultant and the physician in charge of the case cannot be at the bedside at the same time, these rules should apply:

1.—The consultant should examine the patient.

2.—He should write a brief sketch of his findings.

3.—Write the diagnosis, or probable diagnosis, if this can be done.

4.—Suggestions as to the treatment. References to further study.

5.—Prognosis of the case.

6.—In a hospital this can be written on the record sheet. In private practice the written slip should be given to the physician in charge.

Obtaining Intestinal Material Directly for Bacteriologic Study

Three methods of obtaining intestinal material directly, for bacteriologic examination, without the possibility of contamination from surrounding sources, are described by Dr. M. Paulson, of Baltimore, in *Am. J. Med. Sc.*, Mar., 1930.

1.—The first device consists of 7- to 8-mm., soft laboratory glass tubing, in three lengths: 8 cm., 17 cm. and 30 cm. Permitting free motion within the glass tube is a cotton swab, attached distally to the roughened end of a firm iron wire applicator of 16 gage. The iron wire applicator is about 12 cm. longer than the length of the glass tubing which encloses it. The increase in length of the iron wire over that of the tubing is the length of that part of the applicator which extends proximally beyond the tubing. This extension is used for two purposes: (1) to make a small handle, and (2) to permit projection of the applicator for about 8 cm. beyond the distal portion of the glass tube when the device is in use. In further preparation, a small pledget of raw cotton is placed at each of the two ends of the glass tube so as to keep the applicator from slipping out at the distal end and to fix it to the tube at the proximal end.

With the proctoscope or sigmoidoscope in place, the distal cotton pledget is withdrawn, the distal end of the device is passed quickly through a flame, and then the device is inserted through the instrument, under the direct vision of the worker, to a point directly over, but not touching, the area from which the material is desired. Still under the vision of the worker, the applicator is pushed forward and the swab is then in contact with the sought-for involvement; then, with the glass tube in its original position with relation to the involvement and instrument, the applicator is drawn back into it and only then is the entire device withdrawn from the proctoscope or sigmoidoscope. Care should be taken that the distal portion of the glass con-

tainer should touch neither the intestine nor any of the contents. As soon as possible thereafter and immediately subsequent to the flaming of the proximal end of the device, the material-containing swab is removed through the proximal portion of the glass tube so as not to touch the distal end again. The swab is either placed in a sterile test tube, or the appropriate media are directly inoculated.

2.—The second procedure is one which permits the obtaining of contents, for bacteriologic study, directly from the lower sigmoid through a sigmoidoscope, without contamination either by rectal contents or from other sources.

The patient is placed in Haynes' position. This position has been found preferable to the usual, well-known, knee-chest posture.

Next, the anus is cleansed, first with green soap and water, then with alcohol if desired, and finally with a 1 to 1,000 solution of bichloride of mercury. The right hand is now covered with a sterile glove, the first finger of which is inserted into the rectum so as to stretch the anal sphincter to render more easy the inserting of the sigmoidoscope, if for no other purpose. The sterile sigmoidoscope, covered with a sterile lubricant, next is inserted. The patient is ordered to take neither purge nor enema prior to this examination. In order to pass from the rectum into the sigmoid, so as to secure material from the latter point without contamination from the former source, the subsequent steps are pursued:

With the instrument in the rectum the rectal content is drawn out through a sterile aspirator 35 cm. by 8 mm., by means of a suction apparatus. In this way the rectal feces are removed without affecting the material in the sigmoid.

Distally lighted instruments are to be used in the execution of methods 1 and 2. The proctoscope and sigmoidoscope used, each present a diameter of 16 mm. (a diameter no greater than that of the average adult male index finger). An instrument, the diameter of which is as low as 12 to 13 mm., can be used in this work when necessary; however, the former size is to be preferred.

The securing of material for bacteriologic study directly from the intestine through a fistula is accomplished by using the iron wire applicator enclosed in a glass tube 8 cms. long. Excepting that the subsequent steps cannot be performed in their entirety under the direct vision of the worker, they are, however, identical with those described for Method 1.

Diagnosis of Mild Smallpox

Commenting, in *Practitioner*, Lond., Mar., 1930, upon the increased prevalence of mild smallpox throughout England in recent years, Dr. A. Warner remarks that, if we contrast smallpox of today with that of thirty years ago, it is obvious that the disease, in recent years has been much less severe than formerly; in point of fact, the whole course of the illness has undergone a remarkable change. Experience during the last six or seven years leads to the conclusion that we are now dealing with a variation of smallpox that breeds true to type. To this variation the name *variola minor* has been aptly applied and the name is useful in distinguishing this type from the major variety.

In variola minor, the initial symptoms are frequently extended to three or four days, the stages of maturation are more rapidly completed and fully formed vesicles are much smaller than in the major variety; but perhaps the most important difference between the two varieties is found in the pustular stage. The pustules are smaller, less hemispherical and, to use an old-fashioned expression, they are not "laudable pustules." The effect of this is that the secondary fever, restlessness, irritation and delirium, so frequently seen in variola major, are almost entirely absent. In fact, variola minor, is a non-lethal disease, and since the sting of the smallpox of former days has been drawn, its presence should not be a cause for alarm. Indeed, it may be a blessing in disguise, for possibly it is Nature's method of immunizing those persons who will not take the trouble to protect themselves by vaccination. Or perhaps it may be that the mild type now prevalent is partly the result of the virus being attentuated after growing throughout the latter half of last century on the unfavorable soil of a well vaccinated community. Or, again, it may be but a phase in the biologic cycle of the smallpox virus.

Ear Disease in First Year of Life

Dr. M. H. Cottle, of Chicago, in *Illinois M. J.*, Apr., 1930, points out that the anatomy of the ear in the first year of life is quite different from that of the adult. Among other things, the eustachian tube is very short and wide. Moreover, a number of pathologic conditions more or less peculiar to infancy are reflected in the ear.

Infants' ears should be examined frequently, using an electrically-lighted otoscope.

In the treatment of the middle ear, incision of the drum membrane should, in general, be done when any doubt arises and should be repeated if deemed advisable. It should not be forgotten that it is possible for infection of the middle ear to drain through the eustachian tube after paracentesis and even persist for years. In urgent cases it is advisable to open the mastoids early. In 7 cases mentioned by the author, a bilateral, suppurative mastoiditis was found post mortem, with definite bone destruction, although in all the clinical diagnosis was not made, even though the ears were studied.

NEW BOOKS

Bell: The Cancer Problem

SOME ASPECTS OF THE CANCER PROBLEM. An Account of Researches into the Nature and Control of Malignant Disease Commenced in the University of Liverpool in 1905, and Continued by the Liverpool Medical Research Organization, Together with Some of the Scientific Papers That Have Been Published. *Edited by W. Blair Bell, B.S., M.D. Lond., F.R.C.S. Eng., Hon. F.A.C.S., Fellow of King's College, London, Director of the Liverpool Medical Research Organization, Etc. New York: William Wood and Company.* 1930. *Price* $20.00.

Since 1905 Dr. W. Blair Bell has been engaged in researches into the nature and control of malignant disease. This work was later greatly extended in scope by the formation and cooperation of the Liverpool Medical Research Organization, of which Dr. Bell is the Director.

The principal and best known results of these investigations was the treatment of cancer by colloidal lead. Although, in the hands of clinicians other than those of the Liverpool School, this therapy has not given the results that were prognosticated and hoped for, still it is possible that the future may show changes and improvements in the technic that may give further clinical results. The experimental and clinical findings here reported in detail appear to be very convincing in regard to the selective action of colloidal lead for malignant and certain regional pathologic tissues.

The present volume is a resume of the work of investigation of colloidal metals on tissues, normal and pathologic, in the institutes mentioned above and shows the reasons why lead was finally considered the most effective metallic colloid in the therapy of malignant disease. Quite apart from the direct objective of this coordinated research work, it is a fine example of scientific attack from various points of view on a medical problem. Very especially is it interesting as an investigation of a particular example of the chemotherapy of malignant disease.

The book should be of particular interest to all those who are directly engaged in cancer therapy or research work and to workers in biologic and chemotherapeutic laboratories.

Except as offering interesting reading of experimental investigations, it will not be of any direct interest to general practitioners. In any case the price will exclude it from all but highly interested workers.

The work is attractively gotten up. The typography is excellent and very legible, the paper and covers heavy and the illustrations clear. There is a good bibliography at the end.

Groves: Synopsis of Surgery

A SYNOPSIS OF SURGERY. *By Ernest W. Hey Groves, M.S., M.D., B.Sc. (Lond.), F.R.C.S. (Eng.), Surgeon to the British General Hospital; etc. Ninth Edition. Illustrated. New York: William Wood and Company.* 1930. *Price* $5.00.

This book, which has now reached its ninth edition, exactly fulfills its title. It is an epitome of the salient facts in standard surgical practice.

The fifty-one chapters which make up the handy volume deal first with surgical generalities and then take up systemic and regional surgery. Each entity is treated in a systematic, synoptical outline form, stating the bare necessary facts without discussion and with illustrations to emphasize what is said.

The book is suitable for surgical students preparing for examinations, as it is a kind of quiz compend; but it might be used by a general practitioner who uses surgery or by the general surgeon who desires a rapid refreshing of his memory when dealing with a particular condition.

The type is rather small, a necessary matter when covering such extensive ground in a handbook; and besides, as it is a ready reference book for the desk, this can hardly be considered as a drawback. The author is a leading British surgeon.

Brown & Hilton: Physiologic Principles in Treatment

PHYSIOLOGICAL PRINCIPLES IN TREATMENT. *By W. Langdon Brown, M. A., M.D., Cantab., F.R.C.P., Physician to St. Bartholomew's Hospital; Consulting Physician to the Metropolitan Hospital, Etc. With the Collaboration of R. Hilton, M.A., M.B., Cantab., M.R.C.P., Assistant Physician and Assistant Director of the Medical Unit St. Bartholomew's Hospital. New York: William Wood & Company.* 1930. *Price* $3.75.

The first edition of this book appeared in 1908, since when six editions have been called for.

The aim is to supply the practitioner with a wider knowledge of normal and abnormal physiologic phenomena than is usually given in the student courses, and to keep abreast with the most recent developments in this branch of medical science, in order that such principles may be scientifically applied in practice.

The greater part of the volume is devoted to the physiology of digestion and metabolism. The rational treatment of albuminuria, ketosis

acidemia, intestinal intoxication, etc., based on correction of disturbed physiology, is described.

The book is well written, the language is clear and the arrangement simple and logical.

There is no doubt that, at the present time, there is a much closer association between physiology and therapeutics than was the case a decade or more ago, and such books as this one reflect the newer treatments which tend to combine the laboratory with clinical observation.

Balyeat: Allergic Diseases

ALLERGIC DISEASES. Their Diagnosis and Treatment. *By Ray M. Balyeat, M.A., M.D., F.A.C.P., Lecturer on Allergic Diseases in the University of Oklahoma Medical School; etc. Illustrated with 87 Engravings, Including 4 in Colors. Third Edition, Revised and Enlarged. Philadelphia: F. A. Davis Company. 1930. Price* $5.00.

The field of allergic diseases has been much extended by researches of recent years. In addition to asthma and seasonal hay-fever, Dr. Balyeat includes urticaria, migraine, certain types of eczema and chronic mucous colitis in this category.

The major portion of the book is naturally devoted to hay-fever and asthma and the determination of sensitivity to various allergens by the injection of pollen and other extracts as well as the procedure of desensitization treatment are fully described. The author also includes chapters on the symptomatic treatment by epinephrin, ephedrine and other drugs.

The pollens of Oklahoma and vicinity receive special attention.

The work has now reached its third edition which is a tribute to the author's treatment of the subject.

The typography and book work are excellent. It is a pleasure to read the clear large type printed on heavy dull-surfaced paper.

"Clio Medica" Series, Vols. 1 and 2

CLIO MEDICA. A Series of Primers on the History of Medicine. *Edited by E. B. Krumbhaar, M. D.,* VOLUME I, THE BEGINNINGS: EGYPT AND ASSYRIA. *By Warren R. Dawson. F.R.S.E., Fellow of the Royal Society of Medicine, of the Society of Antiquaries of Scotland, and of the Royal Anthropological Institute of Great Britain and Ireland.* VOLUME II, MEDICINE IN THE BRITISH ISLES. *By Sir D'Arcy Power, K.B.E., F.R.C.S., Eng., Honorary Librarian at the Royal College of Surgeons of England, Consulting Surgeon, St. Bartholomew's Hospital, London. New York: Paul B. Hoeber, Inc. 1930. Price, each volume,* $1.50.

The "Clio Medica" series are small and inexpensive handbooks, prepared by recognized authorities in their chosen fields, each book representing some individualized phase in the history of medicine in a compact and reasonably complete form.

In Vol. 1 the facts, of Egyptian and Assyrian medicine, as deduced from papyri and cuneiform tablets are unfolded. This account is written by Warren R. Dawson, an acknowledged authority on the subject.

Volume 2, written by Sir D'Arcy Power, gives an outline of the history of medicine in the British Isles from the earliest times to the present day.

Klapp and Block: Wire Traction of Fractures

DIE KNOCHENBRUCHBEHANDLUNG MIT DRAHTZÜGEN. *Von Prof. Dr. Rudolf Klapp, Direktor der Chirurgischen Universitätsklinik,, Marburg a.d Lahm, und Dr. Werner Block, Chefarzt der chirurgisch-gynäkologischen Abteilung am Marienhospital Witten-Ruhr. Mit 209 Abbildungen im Text. Berlin und Wien: Urban & Schwarzenberg. 1930. Price, geh. RM. 25.—; geb., RM 28.—*

This monograph deals with the various methods of the fixation and extension of fractures by wiring, especially the apparatus which have been devised by various authors, including the authors' own devices for the extension of fractured bones by wire. The technic for different regional fractures is described and fully illustrated.

Monrad-Krohn: Nervous System

THE CLINICAL EXAMINATION OF THE NERVOUS SYSTEM. *By G. H. Monrad-Krohn, M.D., F.R.C.P., Professor of Medicine in the Royal Frederick University, Oslo; Physician-in-Chief to the University Clinic for Nervous Diseases, Oslo; etc. With a Foreword by T. Grainger Stewart, M.D., F.R.C.P., Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square; etc. Fifth Edition. New York: Paul B. Hoeber, Inc. 1930. Price* $2.50.

This little handbook offers a definite routine method of examining a patient's nervous and mental state.

The author thinks that the tendency to separate neurology from psychiatry should be discouraged, and here routine mental tests are included.

The book offers to general practitioners an opportunity of making themselves conversant with various tests which practice will enable them to apply clinically when the opportunity and necessity arises. Furthermore, it may be employed as an introduction to a special study of the nervous system and its disorders.

May: Diseases of the Eye

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. *By Charles H. May, M.D., Director and Visiting Surgeon, Eye Service, Bellevue Hospital, New York, 1916 to 1926; Consulting Ophthalmologist to the Mt. Sinai Hospital, New York; etc. Thirteenth Edition, Revised. With 374 Original Illustrations. Including 23 Plates, with 73 Colored Figures. New York: William Wood and Company. 1930. Price* $4.00.

Few books on a special subject have enjoyed the degree of popularity reached by Dr. May's manual of diseases of the eye. Originally issued as a guide to the student and general practitioner in the treatment of the commoner diseases

of the eye, it has now become rather a textbook covering the whole subject, but retaining its object of being a hand manual for the practioner rather than for the specialist.

As a general proof of its excellence, suffice it to say that this is the thirteenth American edition and that it has been translated into many foreign languages. This edition has been thoroughly revised and all necessary new matters, including description and use of the slit lamp, have been added, without, however, much increasing the size of the volume.

Dr. May's manual on the eye is one which every general practitioner of medicine should have on his book-shelves.

Harrison: Chemistry in Medicine

CHEMICAL METHODS IN CLINICAL MEDICINE. Their Application and Interpretation with the Technique of the Simple Tests. *By G. A. Harrison, B.A., M.D., B.Ch. (Cantab.), M.R.C.S. (Eng.), L.R.C.P. (Lond), Reader in Chemical Pathology in the University of London; Reader and Lecturer on Chemical Pathology in St. Bartholomew's Medical College; etc. With 2 Colour Plates and 63 Illustrations. New York: The Macmillan Company.* 1930. *Price* $5.25.

We have several very excellent books on the application of biochemistry to clinical medicine, but there is always room for another such as the one before us.

There are 26 chapters which deal with the standard laboratory tests for urine, blood, gastric contents, feces, etc., in pathologic conditions. The urine and blood tests, as might be expected, receive specially full attention and a feature which the author stresses is the fullness with which calculations are given, making it easy for anyone who desires to do so to follow the descriptions of the tests and their results and check his own work.

While, necessarily, the language is technical, the text is clear and should present no difficulty to the man who is accustomed to ordinary diagnostic laboratory work.

Although this is a book essentially suited to the pathologic laboratory student and technician, in the present state of clinical medicine no practitioner can get very far without confirmatory diagnostic tests and this work will be found to contain full descriptions of several routine tests from which a selection may be made.

Methods and Problems of Medical Education

METHODS AND PROBLEMS OF MEDICAL EDUCATION. *Seventeenth Series. New York: The Rockefeller Foundation, 61 Broadway.* 1930. *Gratis on request.*

The seventeenth series of monographs on methods and problems of medical education, published by the Rockefeller Foundation, deals with institutions for the teaching of anatomy and histology. Twenty-six such units are described, either as independent entities, such as the Wistar Institute at Philadelphia, or else as departments in general medical schools or universities. They include establishments in all parts of the world. Ground plans, photographs of interiors, and complete verbal descriptions by responsible officials are given.

These books are of inestimable value to those contemplating the planning of such institutions, or improvements in existing ones.

Fifth International Congress of Military Medicine

REPORT ON FIFTH INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY. London, England, May, 1929. *By Commander William Seaman Bainbridge, M.C.-F., United States Naval Reserve, Member of Permanent Committee, Delegate from the United States. Menasha, Wis.: The Collegiate Press, George Banta Publishing Company.*

This is the report of the proceedings of the Fifth International Congress of Military Medicine and Pharmacy made by Commander W. S. Bainbridge, U.S.N.R., the United States delegate to the Congress. It includes copies or summaries of the various papers (in English) read at the Congress and a description of all activities, social and otherwise, during the week that the Congress was in session. More than 40 nations were represented.

The next Congress will be held in Budapest, Hungary, in 1931.

Abderhalden: Biologic Methods

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. *Unter Mitarbeit von über 700 bedeutenden Fachmännern herausgegeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden, Direktor des Physiologischen Institutes der Universität Halle a. d. Saale. Abt. XI, Chemische, physikalische und physikalisch-chemische Methoden zur Untersuchung des Bodens und der Pflanze. Teil 5, Heft 3. Berlin und Wien: Urban & Schwarzenberg.* 1930. *Price Rm* 5.40.

Section XI, Part 5, Chapter 3 of this monumental work of 700 contributors, on biologic methods, edited by Abderhalden, is devoted to two articles by H. Beger and W. Lüdu on plant sociology (association).

Transactions of College of Physicians of Philadelphia

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. *Third Series, Volume the Fifty-First. Printed for the College.* 1929. *Gratis.*

Volume 51 (Third Series) of the *Transactions of the College of Physicians of Philadelphia* contains all the papers read before the College during the year 1929, with the discussions thereon. This includes the sections on ophthalmology, otology and laryngology, and general medicine. The volume also contains the list of Fellows, officers, and various other information regarding the activities of the institution. At the end there is a historical note by Dr. Karl Sudhoff, of Leipzig, controverting the generally accepted idea that syphilis was introduced into Europe from America.

Bellevue Hospital Nomenclature

DEPARTMENT OF HOSPITALS, CITY OF NEW YORK, THE BELLEVUE HOSPITAL NOMENCLATURE OF DISEASES AND CONDITIONS. *Revised by the Committee on Clinical Records. Approved by Dr. William Schroeder, Jr., Commissioner, 1929. New York: Paul B. Hoeber, Inc., 76 Fifth Ave.* 1930. *Price* $3.00.

The Bellevue Nomenclature of Diseases and Conditions was first compiled and published in 1903 by a committee of the Medical Board of Bellevue Hospital, New York, and several revisions have been issued since then. It has been accepted as a standard and used by many nospitals throughout the United States.

The present edition is a thorough revision and represents also the addition of many new diseases, including those of allergy, metabolism, etc. As the book now stands it represents current medical thought on the classification of diseases arranged according to systems and organs.

Cabot: Physical Diagnosis

PHYSICAL DIAGNOSIS. *By Richard C. Cabot, M.D., Professor of Clinical Medicine in Harvard University, Formerly Chief of the West Medical Service at the Massachusetts General Hospital. Tenth Edition. Revised and Enlarged, with Six Plates and 279 Figures in the Text. New York: William Wood and Company.* 1930. *Price* $5.00.

Cabot's "Physical Diagnosis" is a well known book, having been before the profession for 25 years. It needs no recommendation and it will suffice to say that the present, tenth, edition, includes whatever is new in manipulatory and necessary laboratory tests for diagnosis, such as, for instance, the Gamble-Cabot cardiac diagnostic records.

A good reliable book on the evaluation of physical symptoms should be in the possession of every practitioner of medicine and Dr. Cabot's work has earned its reputation by its excellence. The methods of examination mentioned are such only as Dr. Cabot has found reliable in every day use.

Siebert and Wreszynski: Injection Treatment of Varicose Veins

OPERATIONLOSE KRAMPFADER - BEHANDLUNG DURCH KUNSTLICHE VERÖDUNG. *Von Dr. Conrad Siebert, Berlin-Charlottenburg und Dr. Ernst Wreszynski, Berlin-Wilmersdorf. Zweite, umgearbeitete und vermehrte Auflage. Mit 25 Bildern und einer farbigen Tafel. Berlin und Wien: Urban & Schwarzenberg.* 1930. *Price geh. RM 4.—geb. RM 5.—.*

This monograph covers the various aspects of the injection and obliteration of varicose veins. The method was introduced by Linser of Tübingen in 1911 and was since then been much improved by various investigators. The technic is well described and there is an ample bibliography.

Dressler: Clinical Electrocardiography

KLINISCHE ELEKTROKARDIOGRAPHIE. Mit einem Grudriss der Arhythmien. Eine Einführung für Studierende und Ärzte. *Von Dr. Wilhelm Dressler, Assistent der "Herzstation" in Wien. Mit einem Geleitwort von Prof. Dr. C. J. Rothberger. Mit 105 Abbildungen im Text. Berlin und Wien: Urban & Schwarzenberg.* 1930. *Price geh. RM* 12.—; *geb.* 14.40 *RM.*

This monograph is intended as an introduction to the study of clinical electrocardiography for students and practitioners who intend to add this method to their diagnostic armamentarium.

The author remarks that there are plenty of suitable books on the subject in English, French and American literature; the book should therefore have a special appeal only to those who prefer to read in the original German.

Klemperer & Klemperer: Neue Deutsche Klinik

NEUE DEUTSCHE KLINIK. Handwörterbuch der praktischen Medizin. *Herausgegeben von Prof. Dr. Georg. Klemperer und Prof. Dr. Felix Klemperer, Berlin. Fünfter Band, Herzkrankheiten II—Krebsforschung. Mit 187 bildlichen Darstellungen im Text und auf 2 Taflen. Berlin und Wien: Urban & Schwarzenberg.* 1930. *Price, geh. RM* 33.-; *geb. RM* 40.-

The fifth volume of this colossal cyclopedia of practical medicine comprises subjects from Herzkrankheiten to Krebsforschung inclusive. There is a great wealth of practical clinical information here for physicians who read German. These volumes are very well printed and bound. The various articles are written by prominent German physicians and the editors are experienced professors.

Brugsch: General Medicine

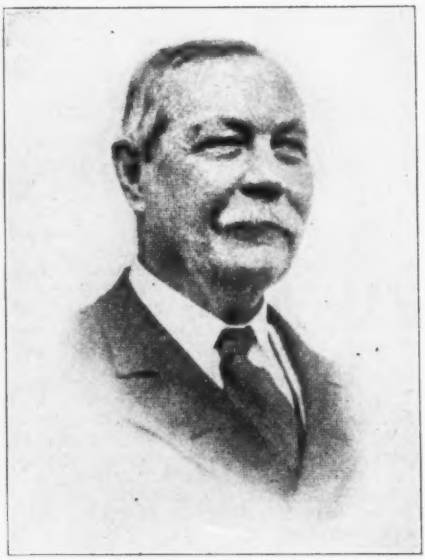
ERGEBNISSE DER GESAMTEN MEDIZIN. Unter Mitwirkung hervorragender Fachgelehrter. *Herausgegeben von Prof. Dr. Th. Brugsch, o.ö. Professor und Direktor der Medizinischen Klinik der Universität Halle a.d. S. Vierzehnter Band 1 Hälfte & 2 Hälfte. Mit 22 zum Teil mehrfabrigen Abbildungen im Text, einer farbigen und 2 schwarzen Tafeln. Berlin & Wien: Urban & Schwarzenberg.* 1929. *Price Geh. RM* 30—*Geb. RM*—35.

The first section of Vol. 14 of this encyclopedia of practical medicine includes 8 contributions on different topicts by leading German authorities. The subjects are diversified, including first aid in injuries and poisoning, epilepsy, the climacterium, liver intoxications, etc.

The second section of this volume contains 12 contributions, including heart failure, undulant fever, leprosy, joint rheumatism, bronchial asthma, etc.

This general work forms a good synopsis of modern treatment for those who are familiar with German.

MEDICAL NEWS



Courtesy, *Physician's Times Magazine*

The Passing of Sir Arthur Conan Doyle, M.D.

Arthur Conan Doyle, physician, explorer, author, Knight and spiritualist, passed to the unseen world July 7, in his seventy-first year. He is of special interest to physicians, not only as the author of fascinating detective stories, but because he himself was a physician; because he created the unobtrusive Dr. Watson as the associate of his inimitable Sherlock Holmes, the master psycho-criminologist; and because, as he himself tells in his "Memories and Adventures," the deductive method employed in his tales was inspired by his physician-teacher Dr. Joseph Bell, of Edinburgh.

The son of an artist, Charles Doyle, he was born in Edinburgh, Scotland, in 1859. He took his medical degree in that city and his early medical life took him, as a ship surgeon, to West Africa, to the Arctic regions on whaling expeditions and elsewhere. Although he commenced writing at the age of 6, it was not until the early nineties that he attained a definite success as a writer of fiction and abandoned medicine as a career. Although never classed as a literary genius, yet no writer since the days of Dickens was so widely known to English speaking people. The lank, languid but, when interested, extremely keen and analytic Sherlock Holmes became a real living character and his adventures were followed with the deepest interest by millions all over the world.

Dr. Doyle was created a Knight in 1900, not on account of his fictional exploits, but because of his exposition of the causes and justifications of the Boer War. His eldest son was killed in the World War.

Towards the end of his life Conan Doyle devoted himself almost exclusively to spiritualism; he wrote 10 books and pamphlets on this subject; became one of its foremost champions and lectured here on it in 1922 and 1923.

He is survived by his second wife, one son and one daughter.

Opening in Missouri

Information has been received that there is an opening for a physician, in or near St. Louis.

Anyone who is interested can obtain further information by writing to J. Lieberstein, Pharmacist, 2330 Union Blvd., St. Louis, Mo.

Education by Mail

Recent news releases by H. A. Wagner, of Chicago, condemn what he calls the "correspondence school racket."

The National Home Study Council, of Washington, D. C., (839 Seventeenth St., N. W.), takes exception to his derogatory generalization and calls for specific instances of unethical practices, *with evidence*. If,

upon investigation, such charges appear well founded, the offending persons or organizations will be prosecuted, for correspondence instruction is *interstate commerce*.

© Underwood & Underwood

Dr. Harvey Wiley Passes

That we now have strong and well-enforced laws governing the purity of foods, and drugs is due, more than to any other man, to Dr. Harvey W. Wiley who, for thirty years, battled indefatigably in the crusade against nostrums and adulterated foods.

Dr. Wiley was born at Kent, Indiana, Oct. 18, 1844, and received his medical degree from the Indiana Medical College, where, later, he taught chemistry. He also taught at Purdue University, and bore many titles, including M.D., Ph.D., D.Sc., and LL.D., from several institutions of learning, and was a Chevalier of the Legion of Honor. He saw service in the Civil War.

From 1883 to 1912, Dr. Wiley was chief of the Bureau of Chemistry, Department of Agriculture, and it was here that he achieved international fame. The later years of his life were spent in lecturing and in writing books and magazine articles which were read by millions of people.

He was a member of a dozen or more learned societies as well as several clubs, and served as president of the Pharmacopeial Convention 1910 to 1920.

His long and turbulent career came to a close at his home in Washington, D. C., on June 30, 1930, he being in his eighty-sixth year.

Chemical Elements

It is sometimes convenient to have a list of the chemical elements, arranged according to their atomic weights. Such a list has been prepared by P. C. Kullman and Co., 110 Nassau St., N. Y. C., and will be sent, gratis, to those who ask for it.

Physicians' Art Club

The Physicians' Art Club, of New York, recently staged an exhibition at which 241 pieces, the work of 63 physicians, were shown, including paintings, sculpture, photographs, drawings, metal work, etc.

If every city of any size could have an active organization of this sort, the general level of the medical profession would be distinctly raised.

Passing of Dr. Kiefer

On May 8, 1930, Dr. Guy Lincoln Kiefer, Commissioner of Health of Michigan, succumbed rather suddenly to an attack of coronary thrombosis, at the age of 64 years.

Dr. Kiefer has been prominent in the field of public health and in Organized Medicine for a number of years and had held many positions of trust and responsibility. His passing is a serious loss to the profession and to the State.

Anglo-American Physicians in Europe

Any person who is going to Europe, and would be interested to know where he can secure the services of an English or American physician, in case of need, can procure a directory of the Continental Anglo-American Medical Society by writing to Dr. B. Sherwood-Dunn, 54 Blvd. Victor Hugo, Nice, France.

Courtesy, John Crerar Library

Death of Blind Cardiologist

It is always an inspiration to hear of a man who has risen to the world's high places, in spite of some staggering handicap; and for this reason, if for no other, the career of **Dr. Robert Hall Babcock,** of Chicago, is especially appealing.

Born at Watertown, N. Y., in 1851, he was totally blinded by a Fourth of July explosion at the age of thirteen but, in spite of this catastrophe, which would have crushed a lesser spirit, he became one of the nation's foremost cardiologists.

He studied at Western Reserve College and the University of Michigan, and received his degree in Medicine from Chicago Medical College, in 1878, through the help of his classmates, who read his lessons to him. After his marriage, in 1879, his wife became his "eyes," and after her death his daughter assumed that function.

From 1891 to 1905, Dr. Babcock was professor of diseases of the chest and clinical medicine in the College of Physicians and Surgeons, Chicago; served on the staffs of a number of hospitals and was a member of a long list of professional societies, at home and abroad. He was the author of several books and many articles in the current literature.

It is of interest to note that Dr. Babcock's attention to diseases of the heart began when he found that he, himself, suffered from such a malady which, at last, when he was seventy-nine years old, terminated his labors on June 26, 1930.

It is encouraging to feel that a damaged heart, *properly cared for,* need not result in the premature death of its possessor.

United States Civil Service Examination

The United States Civil Service Commission announces the following open competitive examination:

Senior Medical Officer (*Psychiatry*)

Applications must be on file with the Civil Service Commission at Washington, D. C., not later than August 27, 1930.

The examination is to fill a vacancy in the United States Public Health Service for duty at the United States Penitentiary, Leavenworth, Kansas, and vacancies occurring in positions requiring similar qualifications throughout the United States.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

First Aid Booklet

The Metropolitan Life Insurance Company, 1 Madison Ave., New York City, has recently issued a useful illustrated booklet dealing with first aid in small industrial plants. They will be glad to send it to anyone who is interested, and it is worth asking for.

Studies of Endemic Goiter

The U. S. Public Health Service has been conducting studies on endemic ("simple") goiter, and has recently issued a bulletin setting forth the results. Physicians interested in goiter should write for this valuable contribution.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physician's supplies, foods, etc., CLINICAL MEDICINE and SURGERY, North Chicago, Ill, will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, a registered pharmacist, or a nurse.

E- 3 Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm.

E- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

E- 17 An Index of Treatment. Burnham Soluble Iodine Co.

E- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.

E- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

E- 49 The Calcreose Detail Man. Maltbie Chemical Co.

E- 95 Everything for the Sick. Lindsay Laboratories.

E-103 The Electron, July-August, 1930. McIntosh Electrical Corporation.

E-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.

E-120 Building Resistance — Guiatonic. William R. Warner & Co., Ltd.

E-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.

E-196 "Facts Worth Knowing. Intravenous Products Co. of America, Inc.

E-244 I Am Oxiphen! Pitman-Moore Co.

E-256 The Modern Way of Giving Digitalis. Upsher Smith Co.

E-258 Prophylaxis. August E. Drucker Co.

E-268 Eat Uncle Sam Health Food. Uncle Sam Breakfast Food Co.

E-269 Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc.

E-271 The Intestinal Flora. The Battle Creek Food Company.

E-286 Ultra Violet Therapy in Your Office. A. S. Aloe Co.

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